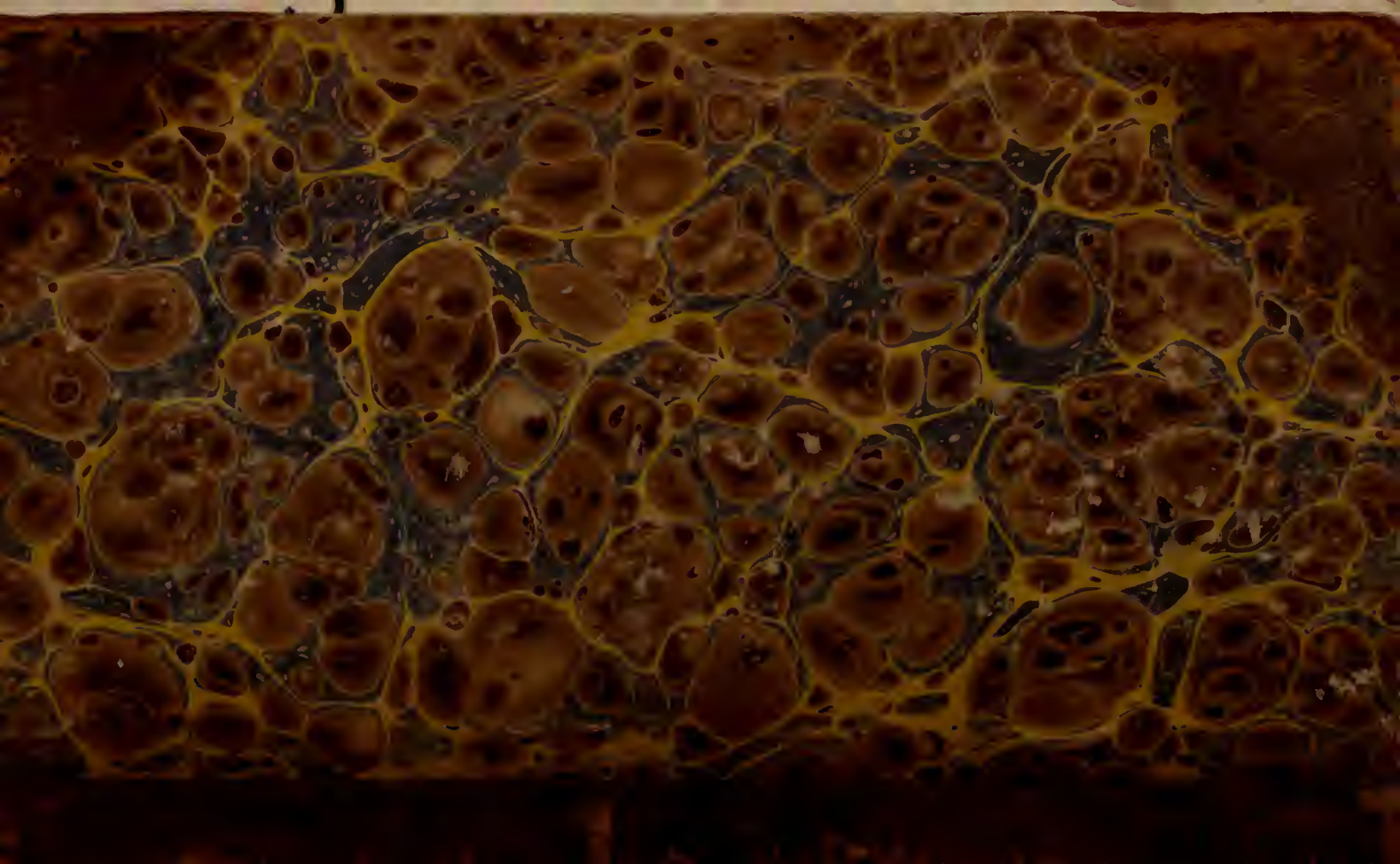


THE

CHINESE REPOSITORY.

VOL. V.—MARCH, 1837.—NO. 11.

ART. I. *Orthography of the Chinese language: objections to parts of the system proposed in the Repository for last May; and alterations suggested.* By a Correspondent.

[Our Correspondent has not given us his name, nor in any way intimated his place of residence; but his allusions to the Fuhkeën dialects of the Chinese language render it unnecessary for us to go far beyond the Straits of Malacca, to search for him. Wherever he may reside, we beg him to accept our best thanks for his communication. We are anxious to meet the wishes of our Correspondent, and of all others, who are interested in the study of this language; and it is pleasing to know that the number of such is fast increasing. In order, therefore, to afford our friends further opportunity to canvass the proposed system of orthography, we have determined to postpone its adoption until it shall be so modified as to meet every reasonable objection. The subject is of so much importance, that we are unwilling to proceed until we have obtained the concurrent approbation of all those who are versed in the Chinese language.]

IN the system of orthography given in the Chinese Repository, for May last, it is observed, that "a great advantage will be gained in point of simplicity, by assimilating the orthography of Chinese to that of India and of the Indo-Chinese nations." Doubtless, if this were practicable, it would be a desirable thing; but it does not seem practicable to carry the assimilation very far. The peculiarities of the Chinese languages, and the vast extent to which they are spoken, lead us to think that nothing of real simplicity and utility should be sacrificed to an object, which, though desirable in itself, yet is not worthy of a thought, when compared with the importance of providing a well-adapted system of orthography for the languages spoken by a third of the human family.

In the article referred to, the marks proposed to be used over the vowels as diacritical, are the following three ˋ, ´, ˈ; and the diæresis (¨). The former are marks which have been long and generally used to denote the tones; nor does it appear that any others would be

more suitable for that purpose. The writer in the Repository proposes, that they should be used both as diacritical marks, and as designative of the tones: these different uses to be pointed out merely by the position of the marks; viz., as diacritical marks, they are to be placed over the vowels, and as signs of the tones they are to be placed after the word whose tone they point out. We have, first, an objection to placing the mark of the tone after the word; for, as the word cannot have its appropriate meaning, or may even convey no meaning at all, unless it be expressed with the proper tone, it seems right that the mark of the tone should be placed either over or before the word, that it may strike the eye, together with or before the letters which represent the body of the sound. Our objection is, however, still more decided against the use of the same marks (oftentimes in the very same word), for two totally different purposes. The confusion which would thus be introduced could not but be great. Nothing but absolute necessity could justify this two fold application of the same marks. But in the present case there is no such necessity: other diacritical marks equally good can be easily found. The latter of the three marks (') the writer proposes to use for pointing out an abrupt termination of a vowel, "either by simply ceasing at once to utter a sound, or by suddenly stopping the voice from passing out, and thus producing one of the three mutes *k*, *p*, or *t*." This, however, appears quite superfluous. It is the *ju* tone which causes this abrupt termination. And as the tone must always be marked, and as the mute in which the word terminates must always be expressed, in order that it may be known which of the mutes is intended, there can be needed nothing further. The use to which the diæresis is applied is objected to as being entirely foreign to its ordinary use, and it will be seen below that this application of it is not at all required. The mark (°) used to denote the nasal, and intended to be inserted between the letters of a syllable, thus causing a break in the word, we should exchange for a short horizontal line placed under the nasalized syllable, and so leave the syllable unbroken.

In examining the vowels as they are given in the Repository, we think that such alterations as the following would be an improvement.

1. An additional power of *a* is wanted, the same as that in wall, fall, or similar to that of *aw* in law.

2. The *o*, which is given as having the same power as the *a* in ball, is rendered unnecessary by the preceding power of *a*: and the sound seems more naturally represented by *a* than by *o*.

3. The use of two *u*'s, the one having the same power as in pull, push, the other the same as that in rude, rule, is, we think, needless. One of these *u*'s is sufficient for every practicable purpose. The length or shortness of the *u* will be pointed out with sufficient accuracy by the tone.

4. A third *u* marked with the grave accent, and illustrated by the word "allure" is not a simple sound. It is nothing more or less than the simple sound of the continental *i* and *u* pronounced rapidly one after the other.

5. To the list of vowels furnished, we add *y*, which, it is proposed, shall invariably have the same sound as in fly, try, rhyme; or as the *i* in white. This will take the place of what the writer strangely gives as the diphthong *ai*, and says it is to be pronounced as the English *i* in white.

The whole of the diphthongs, (if regarded as an additional and distinct part of the system, and not merely as exemplifications of the simple vowel sounds in various relative positions,) we think altogether unnecessary. They are nothing whatever but the simple vowels, given before, in juxtaposition. Still, each one retains its appropriate sound, and what is called the diphthongal sound is nothing more than two or more simple vowel sounds uttered in succession. Particularly in the Chinese language, are diphthongs unnecessary, since it is well known that, however many vowels may be found together, the whole of the consonantal and the vowel sounds in a word are to be pronounced as a monosyllable.

On the consonants we have the following remarks to make. There is no occasion for *y* as a consonant. To call it a consonant (as far as all those uses to which it is applied in English are concerned), is confounding the distinction between consonants and vowels. It is never, when commencing a word, any thing but the vowel sound of the *e* in the English word "remain," or of the continental *i*; though in some words, (e. g. young,) the transition from the first vowel sound to the following part of the word is very rapid. If any one doubts the identity of these sounds, let him instruct a person to pronounce successively the word young, and the dissyllable *eung*, pronouncing the *e* in the latter case very rapidly, and with the power it has in remain; and let him not know in what order these two words are enuntiated; and we think, however nicely his ear may discriminate sounds, he will be incapable of finding any distinction between the two words. If this be correct, then, it is unphilosophical to call *y* a consonant, or ever to use it as such. The same remarks will, in substance, apply to *w* as a consonant, which is nothing more, when beginning a word, than the vowel sound of *u* in push, rule. Why then, employ two characters for representing precisely the same sound? This is one of the greatest inconsistencies so justly complained of in the English language, and surely it is not worth while to introduce it into a new system.

Among the several combinations of consonants which have been given in the Repository, the following appear to be unnecessary in the Chinese language.

1. *hw*. Which is stated to be the same as *wh* in the English word *when*. As observed above, the power here ascribed to *w* is precisely that of the *u* mentioned above, as heard in push, rule. The sound, therefore, sought to be expressed by *hw*, is nothing more than simply the aspirate followed by the sound of the continental *u*.

2. *ny*. This can in all cases be expressed by the *n* and the continental *i*. An illustration of this is found in the last syllables of Britannia, poniard, spaniel.

We will now lay down the system as it appears after the alterations proposed. The diacritical marks we use are either one or two dots placed over the vowels.

Vowels.

a, as in quota, American.

ȧ, as in calm.

ä, as in tall, or as *aw* in awful.

e, as in men, set, yet.

ė, as in there, or as the vowel *e* in they, i. e. the French *e*.

ë, a little broader than the latter, about as some persons pronounce *care*.

i, as in pin.

i̇, as in police, machine, the continental sound.

o, as in note, love.

u, as in pull, push, rude, rule.

u̇, as in the French *l'une*.

y, as in fly, rhyme.

All the sounds intended to be conveyed by the diphthongs given in the Repository, will be naturally and necessarily produced by simply placing the vowels in the proper position, and enunciating each simple sound correctly, yet uttering the whole assemblage of sounds in any given word in the time of a monosyllable.

Consonants.

b, as in bob.

f, as in far.

g, as in give, get.

h, stronger than in English.

j, considerably softer than in jest; yet not so soft as in French jamais.

j̇, as in the French jamais.

k, as in kite, ken.

l, as in lame, lent.

m, as in maim.

n, as in nun.

p, as in pippin, piper.

r, as in are, never to be rung or trilled.

s, as in sit.

t, as in title, let.

v, as in revive.

z, as in zone.

Combinations of Consonants.

ch, as in church.

ng, as in singing, occurs both as initial and final.

sh, as in ship.

sz, *ts*, *tsz*, are merely the successive enunciations of the separate consonants, according to the order in which they stand.

Suppression of vowel sound. Some sounds consist of attempted enunciations of consonants only. The omission of vowel sound is in such cases marked by the apostrophe (’); the apostrophe being placed before or after the consonant or consonants, according as the vowel sound is suppressed before or after them, thus *’m*, *’ng*, *’sz*.

Aspirate. *Ch*, *k*, *p*, *t*, and *ts*, often have an aspirate between them and the vowels which follow; this is to be expressed by the Greek spiritus asper, thus t'e.

Nasal. This we would propose should be represented by a short horizontal line under the word to be nasalized.

Tones. These are a most important part of the language. In the Fuhkeën dialect there are nominally eight tones, though the second and sixth of these are precisely the same. So that there are in fact only seven. One of the tones can be indicated by the absence of any mark. Six marks, therefore, are all that will be needed. They may be as below.

1,	upper ping	indicated by absence of any mark.	
2,	upper shang	"	ˊ
3,	upper k'ù	"	ˋ
4,	upper ju	"	˘
5,	lower ping	"	˜
6,	lower shang		(same as number 2.)
7,	lower k'ù	"	–
8,	lower ju	"	ˈ

These marks of tones we propose should be placed over the words to which they belong.

ART. II. *Description of the agricultural implements used by the Chinese: the plough, harrow, hoe, rake, bill-hook, flail, and the water-wheel.*

IT is a trite saying, there is no one so ignorant, that he cannot teach the wisest man something. It is, therefore, wisdom's part to gather instruction, as the bee does honey, from every object that presents itself, as well from the unsightly and mean, as from the beautiful and showy. Much that is curious and useful may be gathered from a comparison of the arts of life in different ages and among various nations; not only from the civilized and polished, but also from the rude and barbarous. Opportunities for such comparison and improvement are very common among this people; and if we can come to the investigation, with minds unbiased in favor of caste or country, the examination will be profitable and entertaining. Hardly a day will pass which may not afford us a chance of learning something

new; either by observing the character of this shrewd people, with all their endless obliquities from rectitude caused by conflicting interests and passions; or in remarking the uniformity of their notions of things derived from a rigid adherence to custom and received truths; either in examining their arts, now become, as it were, stereotyped from immemorial use; or lastly, in ascertaining the secret springs of polity by which so multitudinous a people are kept in subjection, so constantly employed, and so well provided with food and clothing. All these, and many other kindred topics, are fruitful in amusement and instruction to the candid and discriminating inquirer. This country has too long been considered as a peculiar one: a land to which our previous notions of things were not to be brought; a people whose habits and sciences were to be tried by some other standard than that which directed our judgment of other nations. The word *mandarin*, for instance, seemed to convey with it a feeling of awe and power, far above that of magistrate or officer. From the histories of China, which are current in the west, one obtains the idea that an *emperor*, a *colao*, a *mandarin*, and other similar terms, have different functions, or in some unaccountable way are superior to the same dignitaries in other less "celestial" lands. Of this inflated style of speaking and writing there has been enough, and we hope that China is beginning to be looked upon as a component part of the great family of nations, having relative claims and duties like other governments. Madame de Staël once observed, that "she had traveled over all Europe, and everywhere found nobody but men and women;" and we strongly suspect that had she come to China, she would have passed the same judgment. By these remarks we are as far from wishing to withhold praise from the Chinese, in whatever is commendable and worthy of imitation, as we are to deprecate all undue and unjust eulogy of them; we only desire to have a fair estimation made of their character: and to attain a knowledge of China and the Chinese, which is so desirable, we know of no better way than a patient search into all the phases of their character, their arts, and their literature.

Their mechanical contrivances, when compared with those in western lands, sometimes strikingly illustrate the different ways there are of attaining the same end. The most careless observer from a foreign shore here sees many operations, either in the modes of living or in the manipulations of various arts, which instruct him by their ingenuity or amuse him by their oddity. Hardly a trade can be found in which there are not some processes different from those employed elsewhere, and among these trades few implements can be found which are the exact counterpart of those used in other countries. But, in all their mechanics, we have remarked one principle which the Chinese seem ever to have had in view; and that is, to make them of such models as will give direction and aid to manual labor, but in no case supplant it. If this observation be true, it is a reason why we look in vain for any complicated machines, any extensive system of water-works, by which nature is rendered subservient to art, or even

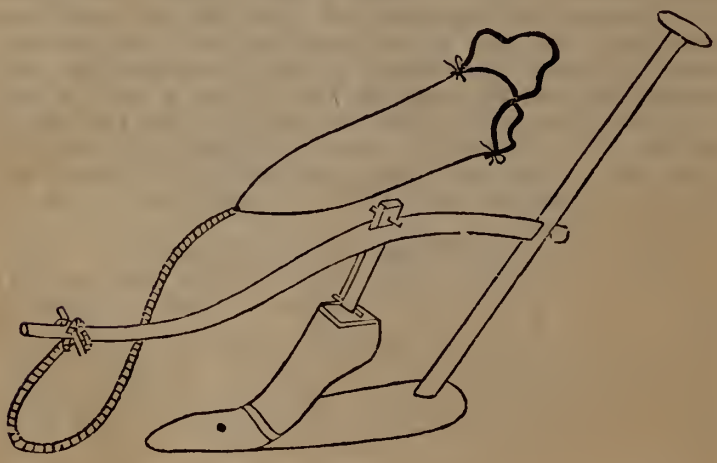
for such an application of animal force in overcoming superior obstacles as would require the aid of much machinery. In the whole empire, we suppose so simple a piece of machinery as a saw-mill does not exist; whether this results from any want of invention, or from any idea that it would be impolitic to diminish the demand for manual labor by the introduction of machinery, we will not stop here to inquire. There is a large establishment for sawing in the neighborhood of Canton, at which upwards of thirty men are employed, who do not, we imagine, cut out so many feet of timber in a day as could be done by a single mill, requiring the oversight of only an individual. At that place, (and it is the mode everywhere followed,) the log is laid horizontally on two benches, or reared at one end, while the other is secured, and the whole sawn up in such shapes as are needed. A more laborious process for so simple an act can hardly be imagined. Nor are there, so far as we know, any mills for grinding corn, in which human labor is dispensed with to any extent, if we except a small one near Macao, some time ago set up by the Portuguese. Much of the flour used by the people, (which is not a very large quantity,) is ground by themselves in hand mills at their own houses. There are, however, larger ones turned by oxen, to which, especially in towns, much of the grain is carried by those who have either no mill or no leisure to grind it for themselves. The most complicated machines which we know to exist among them are the bamboo water-wheel, the various applications of the overshot-wheel, and the loom. So subdivided have the handicrafts become, that in many of them the workmen use very few tools, but with these they are prefectly familiar. We have seen an itinerant tinker sitting at the side of the street, who, provided only with a hand furnace, and bellows, a pair of pincers, a hammer, and a roll of felt, soldered an iron pan in a workmanlike manner.

In agriculture, the implements are few, and most of them simple. A Chinese farmer seldom undertakes to cultivate more than half a score of acres; and the utensils necessary for all the operations, in what can hardly be considered more than a large garden, are neither numerous nor complicated. They are for the most part made of wood, and can be purchased cheaply. They are very light: we once met a farmer returning home, easily and leisurely carrying his plough and its yoke, with his harrow, hoe, and sickle, all together, on his back.

In regard to their simplicity, there are points of striking similarity between the instruments of agriculture used by the ancient Hebrews and those found, even at the present day, among the Chinese. The plough, as improved in the latter times of that people, was apparently the counterpart of the one now used here. In guarding the fields of grain or vegetables from depredators, by watchmen placed in conspicuous stations, the customs of the two are alike; but the Chinese erect low pyramidal thatches overlooking the fields in which the observer sleeps, while the Hebrews sat upon a tree or watchtower. The thrashing-floors of the Chinese are like those found in Palestine; and

in many operations of sowing and reaping grain, and of ventilation, the resemblance between the two is close. There are, however, also many usages, characteristic of one or the other of the two nations, in which they widely differ from each other.

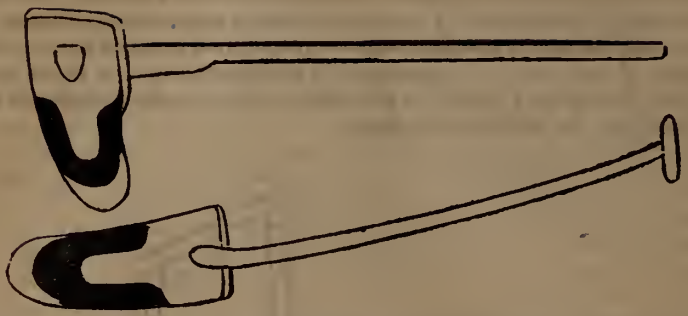
The *le*, or plough, used by the Chinese, strongly resembles that found among the Arabs or Syrians. It is made of hard wood, except the iron that defends the share, and is drawn by a single buffalo, harnessed to it by a trace or strap, passing before the breast and over the neck. The depth of the furrow depends a good deal upon the strength of the ploughman; sometimes it is a mere scratch, but at others, the soil is turned over to the depth of four inches or more. In this region, the plough is employed mostly in preparing the rice grounds for vegetables, after the crop has been gathered. It is seldom seen in the paddy fields, they being too marshy and wet to allow its use. The character by which the Chinese designate it is composed of an *ox*, a *knife*, and *grain;* thus associating enough of its history in the form to make its use evident to the eye. In China, as almost everywhere else, this implement is synonimous with husbandry; and a farmer is called *kung teën jin*, a man who ploughs the fields.



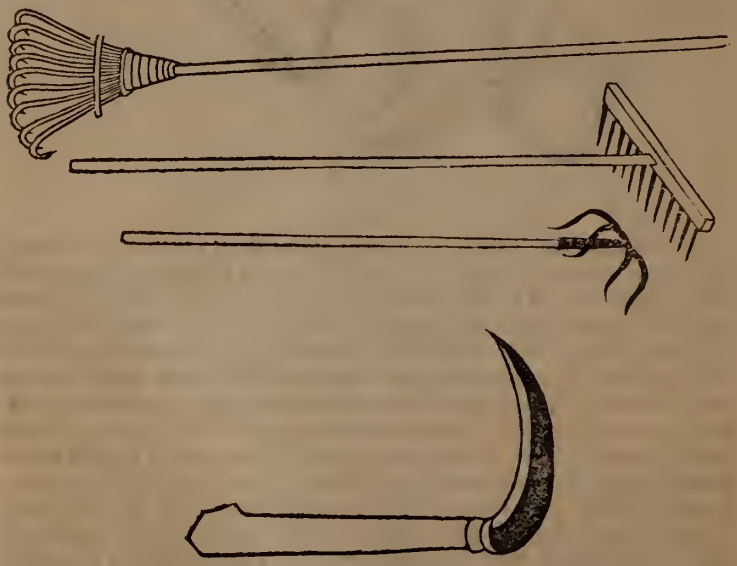
The *pa*, or harrow, is used in the spring to divide and pulverize the clods on the rice grounds, after the early rains have well soaked the earth, and to reduce the soil to the fine mash so well adapted for the easy dibbling and transplanting the rice shoots. It is drawn by the buffalo, harnessed as when ploughing; while the driver, to give it more weight usually becomes the rider. The teeth are eight or ten inches in length, and about a dozen in number. We can but stop and admire the fitness of the buffalo for this half amphibious and

exceedingly laborious work of dragging the harrow through the wet rice-fields, where he sinks to the haunches at every step; the horse or ox would be wholly disabled before finishing half a dozen acres. Instead of the yoke, as represented in the figure below, a collar and traces, like those attached to the plough, are very often employed for harnessing the buffalo to the drag.

The *cha*, or hoe, is the most common utensil in Chinese husbandry. It is made of wood, except the guard of iron at the edge of the blade; and in the hands of a sturdy farmer becomes a very effectual implement for turning over and preparing the ploughed land for the seed. The hoe is much used in breaking up the soil in those patches which are too small to admit a harrow, where its long blade serves to mellow the clods. The women often take a part here, sometimes undergoing great drudgery. We remember once to have seen a solitary female, with a child strapped to her back, engaged in hoeing a rice plat so marshy that she sunk to the knees at every step, with a powerful sun beating upon her head at the same time. The *kŏ*, or spade, is constructed of wood and iron like the hoe, and is chiefly employed in forming ditches, and repairing the dikes which separate the fields, and in preparing garden beds for the drill. It is lighter and neater than the hoe. There are two other tools used by gardeners; the *tsan* or small spade, and the *pŏ* or drill-hoe, but they are not common. The latter is only a strip of narrow iron bent at right angles, and tied to a handle.

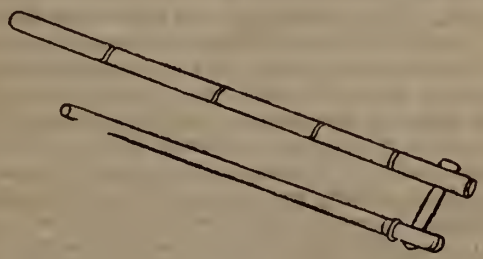


The *pa*, or rake, is made indifferently of bamboo or wood, most usually of the former. For gleaning the fields after harvest, raking the straw at the thrashing-floor, and collecting offal about the streets, the bamboo rake is in universal use. The lowermost of the three represented in the cut is called *teĕ-tă*, or the 'iron-feeler,' and is seldom met with in this neighborhood. There are other implements seen in farmyards, as beetles, brooms, &c., which require no particular description, as they present nothing peculiar.



The *leĕn*, or bill-hook, is applied to a great many purposes; in the spring it is used as a pruning-knife, in the summer as a scythe, and in harvest as a sickle; and is occasionally pressed into service as a cleaver and an ax. The blade is thick, and about a foot long.

The *leën keä*, or flail, is not always made in this manner; the two parts being often united by a strap or cord, like that used in England. It is the common implement for thrashing. There are two or three modes of separating the grain from the chaff in China. When the season is favorable, and the rice allowed to stand till fully ripe, a tub is placed in the field, having a high defense of cloth on one side, and a small rack within it, to which the grain is carried immediately on being cut, and there beat out. By this mode, the straw is injured very little, and serves for making brooms, rain-cloaks, mats, &c. When circumstances require the rice to be gathered before it is fully ripe, the sheaves are stacked on the thrashing-floor till the time of thrashing, when the grain is separated by flails; oxen are seldom or never used for this purpose in this region. The Chinese are very wasteful in reaping their grain, and from the careless manner in which they gather it, often lose enough to sow the field. Some of this residue is gleaned by hand or swept up, but if the stubble be at all weedy, it is entirely lost; for the loss is not in dropping whole ears, but in deferring the reaping so long that the grain shells out when the straw is handled. In this, and in some other practices in their agriculture, the Chinese exhibit an ignorance of economy sadly at variance with the reputation which they have sometimes been supposed to possess.



After the rice is thrashed, it is cleaned by fans, and then carried to the mortars, where the husk is separated by large pestles The farmers usually sell their produce in the shape of paddy, leaving the purchaser to get it husked. According to Mr. Davis,* the fanning-mill is a Chinese invention, but it is seldom used; for in all the farm-houses we have hitherto visited, we have met with only one, and that in such a condition as proved it to be rarely employed. However, where wheat is cultivated instead of rice, the fanning-mill is probably oftener used; and we may here remark, that our notices of Chinese agriculture apply chiefly to the cultivation of rice as seen in the vicinity of Canton. The fanning-mill is made like the one common in England, except that the chaff is collected instead of being blown

* The Chinese vol. 2, page 399.

away. A little modified, it is employed at Canton in separating the impurities of some kinds of tea.

The various modes adopted by the Chinese for irrigating their fields, especially those of rice or cane, have been so well narrated by others, that we need not here particularly describe the machines employed. One plan, when the country admits, is to conduct the little streamlets which descend from the hills into all the patches lying adown the sides and at the foot; thus causing the water to beautify and fertilize the vale through which it runs. Reservoirs are sometimes dug on the summit or sides of terraced hills, from which artificial rivulets are made to descend in the same manner. Water is raised by sweeps from wells, in a way similar to that practiced in England; and also, when the elevation is small, by two men standing over a reservoir or on the banks of a pool, with a bucket suspended between them by ropes, as is clumsily figured in Davis' Chinese, vol. 2, page 396. By this method more water is raised in a given time than by a common pump, but the height seldom exceeds two feet. Where the ascent of the bank will admit, the Chinese employ a chain pump; and in one variety or another, this machine is in great use throughout China, sometimes worked by a crank, sometimes by oxen, and at other times by men. Many of them are to be found between Macao and Canton. It is well described and represented by Staunton. (See Embassy, vol. 2, p. 480.) The same principle is applied also in a kind of portable pump, in which shape, it imperfectly supplies the place of the sucking pump, a machine unknown to the Chinese. But by far the most ingenious contrivance for irrigating lands is the bamboo water-wheel; and we cannot do better in closing this article than to quote entire the description by Davis, who saw hundreds of them in operation on the Kán keäng. The banks of this rapid stream which flows northward from the Meiling into the Poyang lake consist of a loose soil, and the current has worn them away to the depth of thirty feet or more. Here these wheels are placed; and Chinese ingenuity has thus converted the strength of the stream into a power for overcoming the very difficulties which it originally occasioned; "and one is at a loss which to admire most, the cleverness and efficiency, or the cheapness and simplicity of the contrivance." "The wheel," says Davis,* "which is turned by the stream, varies from twenty to thirty feet or more in height, according to the elevation of the bank; and when once erected, a constant supply is poured by it into a trough on the summit of the river's side, and conducted in channels to all parts of the sugar plantations which there chiefly occupy the lands.

"The props of the wheel are of timber, and the axis is a cylinder of the same material; but every other portion of the machine exibits some modification or other of the bamboo, even to the fastenings and bindings, for not a single nail or piece of metal enters into its composition. The wheel consists of two rims of unequal diameter, of which the one next the bank is rather the least. 'This double wheel,'

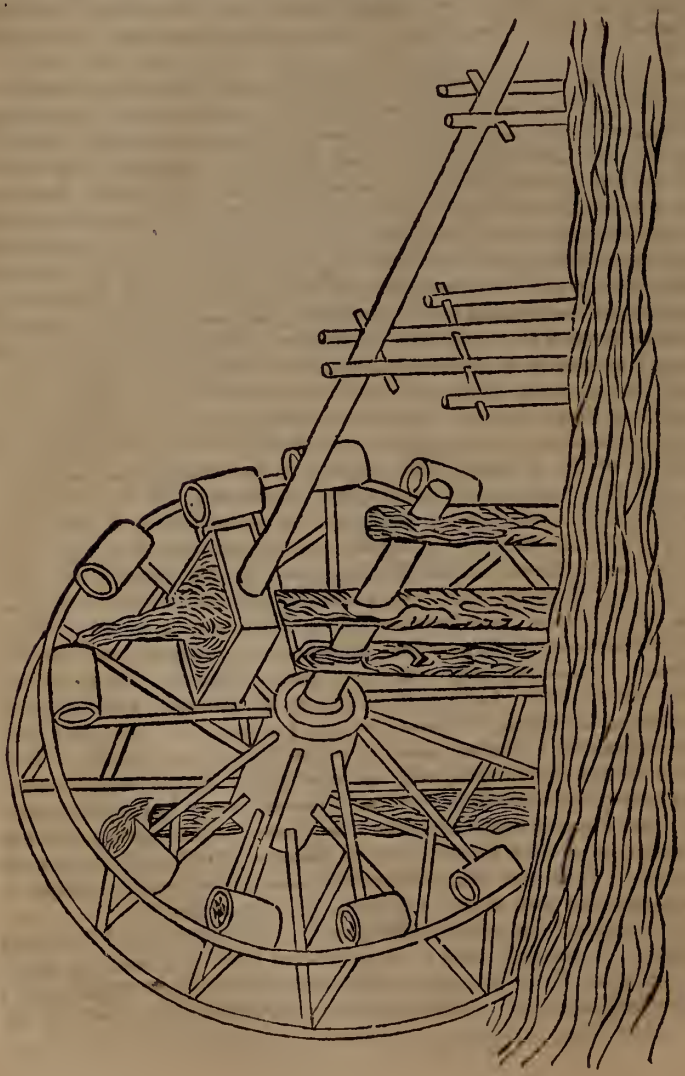
* The Chinese, vol. 2, page 316.

observes Staunton, 'is connected with the axis by sixteen or eighteen spokes of bamboo, obliquely inserted near each extremity of the axis, and crossing each other at about two thirds of their length. They are strengthened by a concentric circle, and fastened afterwards to the rims; the spokes inserted in the interior extremity of the axis (or that next to the bank), reaching the outer rim, and those proceeding from the exterior extremity of the same axis reaching the inner and smaller rim. Between the rims and the crossings of the spokes is woven a kind of close basket-work, serving as ladle-boards,' which are acted upon by the current of the stream, and turn the wheel round.

"The whole diameter of the wheel being something greater than the height of the bank, about sixteen or twenty hollow bamboos, closed at one end, are fastened to the circumference, to act as buckets. These, however, are not loosely suspended, but firmly attached with their open mouths towards the inner or smaller rim of the wheel, at such an inclination, that when dipping below the water their mouths are slightly raised from the horizontal position; as they rise through the air their position approaches the upright sufficiently near to keep a considerable portion of the contents within them; but when they have reached the summit of the revolution, the mouths become enough depressed to pour the water into a large trough placed on a level with the bank to receive it. The impulse of the stream on the ladle-boards at the circumference of the wheel, with a radius of about fifteen feet, is sufficient to overcome the resistance arising from the difference of weight between the ascending and descending, or loaded and unloaded, sides of the wheel. This impulse is increased, if necessary, at the particular spot where each wheel is erected, by damming the stream, and even raising the level of the water where it turns the wheel. The circumstance occasioned some obstacles to our progress up the stream towards the Meiling pass, as the water near such places rolled with the rapidity of a sluice. When the supply of water is not required over the adjoining fields, the trough is merely turned aside or removed, and the wheel continues its stately motion, the water from the tubes pouring back again down its sides. These wheels extend on the Kán keäng, from the neighborhood of the pass to a considerable distance down its stream towards the lake, and they were so numerous that we never saw less than thirty in a day. It is calculated that one of them will rise upwards of three hundred tons of water in the four-and-twenty hours. Viewed merely in regard to their object, the Persian wheel, and the machines used for raising water in the Tyrol, bear some resemblance to the one just described, but, as observed by Staunton, 'they are vastly more expensive, less simple in construction, as well as less ingenious in contrivance.'"

The figure of the water-wheel given in the work quoted from well characterizes the lightness and neatness of bamboo structures generally, whether large or small. We have met with a drawing of a water-wheel of a little different model in a Japanese work, which we give just as there sketched, and which, with what has already been

said, will require no additional explanation. It is but just to add, that we have selected the drawings of all the agricultural implements, of which cuts are given, from the same Japanese work; but not copied them at the expense of fidelity to the Chinese models. This book shows as great a superiority over the Chinese in the arts of design, as that secluded people appears to have attained in many other branches of elegant art over their neighbor.



ART. III. *On the preparation of Opium for the Chinese market: written in March* 1835, *and then communicated to the Benares and Behár Agencies.* By D. Butter, M. D., Surgeon 63d B. N. I., late opium examiner of the Benares Agency. (From the Journal of the Asiatic Society of Bengal. No. 51, March, 1836.)

IN committing to paper, for the use of my successor in office, the following observations, I would beg, once for all, to disclaim the idea of their being infallibly correct: for, although they are the result of ten years' attention to their various subjects, I am aware of the disadvantages under which an individual labors, upon whom falls the task of first writing on any subject involving the discussion of obscure questions, and who is thus deprived of the benefit of the judgment of other persons; and am prepared to find my remarks hereafter greatly modified by the progress of discovery.

The great object of the Bengal opium agencies is to furnish an article suitable to the peculiar tastes of the population of China, who value any sample of opium in direct proportion to the quantity of hot-drawn watery extract obtainable from it, and to the purity and strength of the flavor of that extract when dried and smoked through a pipe. The aim therefore, of the agencies should be to prepare their opium so that it may retain as much as possible its native sensible qualities, and its solubility in hot water. Upon these points depend the virtually higher price that Benares opium brings in the China market, and the lower prices of Behár, Malwa, and Turkey opium. Of the last of these, equal (Chinese) values contain larger quantities of the narcotic principles of opium; but are, from their greater spissitude, and the less careful preparation of the Behár and Malwa, incapable of yielding extract in equal quantity and perfection of flavor with the Benares.

It therefore becomes a question, how the whole process of the production of opium from the sowing of the seed to the packing of the chests for sale, should be conducted so as to preserve with the least injury its native flavor and its solubility.

There can be no doubt that the quantity and richness of the milk obtained from each poppy-head depend greatly upon the geological and other physical conditions of the locality which produces it; especially the soil, sub-soil, manuring, and irrigation; and also upon the seed which is employed. But as these matters are, in the present circumstances of the Bengal agencies, little open to choice or control, the first *practical* inquiries which claim our attention relate to the extraction of the juice and its treatment while in the hands of the *koéris*.

Of the various processes for the preparation of sugar and medicinal extracts from vegetable juices, it is well known that distillation in vacuo is incomparably the most efficient in preserving unaltered the

original taste of the sugar, and the taste, solubility, and therapeutic powers of the extracts. It is also known that this process owes its superiority to the exclusion of the chemical as well as the physical agency of the atmosphere, to its rapidity of exsiccation, and to the comparative lowness of temperature at which it is performed. When sugar-cane juice, after even half an hour's exposure to the air, is boiled in a narrow deep vessel, and under the pressure of the atmosphere, vaporisation goes on so slowly that the sugar has time to undergo the vinous and acetous fermentations, whereby a certain portion of it is converted into vinegar, before the heat can be raised high enough to check this change; and the high temperature, to which it is so long exposed during this slow evaporisation, chars another portion, and converts it into molasses. Other vegetable juices, under similar circumstances, undergo analogous transformations: much of their substance is converted into vinegar; and the high temperature causes a partial decomposition of the rest: oxygen also is largely absorbed from the atmosphere, and greatly impairs the solubility of the dried extract.

On the principles which flow from these facts, it would be, *chemically* speaking, advisable to prepare opium by distilling in vacuo, large quantities of the milk just as it has oozed from the capsules; and I have no doubt that opium thus prepared would possess in an unprecedented degree the desired qualities of solubility and strength and purity of flavor, as well as narcotic power; and can imagine, that under a system of open trade in opium, this process would be *commercially* profitable. It would, however, be inapplicable under a monopoly constituted as the present system is; and I have mentioned it only with the view of pointing it out as the acme of that perfection in the preparation of vegetable juices to which we can, with our present means, only approximate.

That the approximation may proceed as far as possible, it will be necessary, first, that the poppy juice shall, at the time of collection, contain a minimum of water; so that its reduction to the proposed degree of spissitude may be effected in the shortest time, and be therefore attended with the least exposure to the air at a high temperature, and with the smallest consequent loss of solubility and of specific qualities that may be practicable.

The goodness of the soil, and the management of the irrigation, are circumstances which powerfully affect the strength of the juice at the time of its collection: but a third agent, still less amenable than these to control, now comes into play, the precipitation of *dew* on the surface of the capsule. When a current of wind, or a cloudy sky, prevents the formation of dew, it is found that the scarifications made in the capsule about the middle of the preceding day are sealed up by the slight oozing of juice, which had immediately followed the incisions; and the quantity of opium obtained is small. When, again, the dew is abundant, it washes open the wounds in the capsules and thus facilitates the flow of the milk, which in heavy dews is apt to drop off the capsule entirely, and be wasted. But when the dew is in

moderate quantity, it allows the milk to thicken by evaporation, and to collect in irregular tiers, (averaging one grain of solid opium from each quadruple incision,) which on examination will be found to have a greater consistency, and a "rose-red" *(Werner)* color towards the external surface, while the interior is semi-fluid, and of a "reddish-white" color. This inequality of consistence constitutes the *grain of raw opium*, of which I shall have to speak hereafter.

In the collection of these drops of half dried juice, it is very apt to get mixed with the dew, which, in the earlier hours of collection continues to besprinkle the capsules, and which here does a double mischief; first, by retarding the inspissation of the general mass of the juice; and secondly, by separating its two most remarkable constituent parts, that which is soluble, and that which is insoluble, in water. So little aware, or so reckless, even under the most favorable construction of their conduct, are the *koéris* of the injury thus caused by the dew, that many of them are in the habit of occasionally washing their scrapers with water, and of adding the washings to the collection of the morning: in Malwa, oil is used for this purpose, to the irremediable injury of the flavor of the opium. On examining the juice thus mixed with water, it will be found that it has separated, as abovementioned, into two portions, a fluid and a more consistent substance; the latter containing the most of the resin, gluten, caoutchouc, and other less soluble constituents of opium, with part of the supermeconiate of morphia; and the former containing the gum, some resin, and much of the super-meconiate of morphia, and much of the coloring principle, which, though pale at first, is rapidly affected by light, and acquires a very deep "reddish or blackish brown" color. Many *koéris* are in the habit of draining off this fluid portion into a separate vessel, and of bringing it under the name of *paséwa'*, for sale, at half the price of opium, to the Benares agency, where it is used as *léwá* (paste for the petal envelops of the cakes). Others, after allowing the soluble principles to become thus changed into an acescent, blackened, sluggish fluid, mix it up with the more consistent part of their opium, and bring the whole for sale in this mixed state; the consequence of which is that they are subjected to a penalty, called *battá upon paséwá*, and regulated by the estimate of the opium examiner of the quantity of *paséwá* contained. This penalty is the only efficient check upon this most pernicious practice of the *koéris;* for on the generality of the gomáshtas, it is difficult to impress the necessity of their looking after the *koéris* during the collecting season. Were gomáshtas in general fit for their offices, the name of *paséwá* might be banished from the Bengal agencies; all that is required for that purpose being that they should instruct all their *mahtá's* and *koéri's*, to exclude dew as much as possible from the opium at collection, never to add water to their opium, then or at any other period, but at the end of their day's collection, to rub it together in a mortar or similar vessel, breaking down the *grain* of it abovementioned, so as to reduce the whole to a homogeneous semi-fluid mass, which should be dried as quickly as possible in the shade, in a current of air, free from

dust, by spreading it on any clean flat surface, and turning it over ten or twenty times. With this management, one afternoon in the dry collecting season would suffice for bringing to the spissitude of 70 per cent. the collection of each day, which could then be secured, along with the rest of the *koéris* opium, in a vessel of any form, safe from deterioration by internal change. It is a common belief, that all new opium *must* ferment:* but that is a fallacy occasioned by the low degree of spissitude at which opium is generally received at the Bengal agencies, and by the consequent fermentation and swelling up which almost constantly occur, when such opium is allowed to stand for some hours in large vessels.

So very large was formerly the admixture of *pasé'wá* in the opium brought to the Benares agency, that it was thought necessary, for the sake of its appearance, to draw off as much as possible of the black fluid, by storing it for weeks, in earthen vessels, perforated with a hole. Of late years, there has been a great amendment in this respect, and the draining system has therefore become unnecessary; an event which ought to be followed by the abolition of the inconvenient receptacles in which it was carried on, and by the general substitution of moveable wooden cases and drawers in their stead.

Pasé'wá, in a pure and concentrated state, is a viscid, dark, reddish-brown fluid, transparent in thin plates. Its homogeneous physical constitution prevents its assuming to the eye that appearance of consistency which is presented by ordinary opium. In the former, all the ingredients are in a state of true chemical combination, with the water contained; while, in the latter, many of the ingredients are only in a state of mechanical mixture, a condition which almost necessarily gives an appearance of solidity beyond all proportion to the actual quantity of solid matter contained. Hence, *pasé'wá*, and opium containing *pá'sewá*, are less consistent, and would, to the inexperienced eye, appear to contain much more water than pure opium of the same actual spissitude; a source of much perplexity to any one who tries for the first time to estimate, by the consistence, the real spissitude or dry contents of different samples of opium containing more or less of *pasé'wá*. A tentative process is the only one by which a person can qualify himself to estimate the spissitude with tolerable accuracy. He should, before allowing the *parkhiyas* to state their estimate of the spissitude, form one in his own mind, and make a memorandum of it, noting his reasons for assigning the degree of spissitude on which he fixed. The result of the steam-drying test, to which small samples of all opium are subjected in the Benares agency, will then enable him to judge on which side, whether under or over estimate, he has inclined to err, and to avoid the error in his subsequent operations.

The constituents of *pasé'wá* are in a state of chemical combination; and the slow addition of water will not subvert that condition. But

* Dr. Abel believed that fermentation was necessary for the developement of the narcotic principle, and considered the fermentation as of a panary species, in which the gluten played a principal part.

the sudden affusion of a large quantity of water on concentrated *pasé'wá*, instantly resolves it into two portions, a dark colored fluid containing the gum, coloring matter, and super-meconiate and acetate of morphia, and a lighter colored powder, consisting of the resin and some gluten, and a minute portion of caoutchouc. In making *lé'wá*, therefore, from *pasé'wá*, or from inferior opium, the necessary quantity of water should be slowly added, and thoroughly mixed previously to the addition of more water. Pure opium is liable to the same resolution of its component parts, from the sudden affusion of water: if the latter be slowly added and thoroughly mixed, the gelatinous opium will absorb it, forming a species of hydrate, and will retain its tremulous consistence; but if the water be suddenly added in considerable quantity, an immediate separation of the more and less soluble constituents occurs, and the opium loses its gelatinous and adhesive character. When opium is dried up to a certain point, below the spissitude of 80 per cent., it loses the power of absorbing water without decomposition, and cannot be brought to the gelatinous state. It might be expected, that, by adding 30 parts of water to 70 of dry opium powder, we should produce a combination possessing the consistence and other physical characters of fresh standard* opium; but the compound has little *consistence*, and will be found to contain insoluble portions, which have lost their power of forming hydrates with water: yet its *spissitude* remains exactly that of standard opium, the precise quantity of dry opium employed in making it being recoverable from it, but in a darkened and deteriorated condition. The above observations have a practical bearing upon the manufacture of *lé'wá'*, as has already been noticed, and upon the degree of spissitude which opium, either in the hands of the *koé'rís* or in the agency godowns, should be permitted to acquire: it should be limited to 66 or 67 per cent. for the former, and 70 or 72 for the latter; because, with every additional degree of spissitude above this, the solubility is impaired in an increasing ratio.

Among some thoughts on the subject committed to writing six years ago, I find the following remark and query: "The whole of the original milky juice will pass through a finer filter than that used by the Chinese in making the extract for smoking: is it possible to dry the opium, retaining its property of such minute division and diffusibility; or is it necessary for the complete separation of the water from the resin, gluten, caoutchouc, &c., that *some* absorption of oxygen should take place, and some consequent diminution of their solubility, or rather miscibility with water?" My reason for noticing this query is the subsequent solution of the proposed problem by M. Previte of Calcutta, in the highly similar case of animal milk, which he appears to have succeeded in drying to a powder with no perceptible injury to the diffusibility of its curdy and oleaginous principles. This is the very result that should be aimed at in the preparation of opium for the Chinese market.

* So called, because this is the degree of spissitude required at the Bengal agencies for the full price allowed by government. On parcels of opium, inferior to this in spissitude, a penalty is levied, called *battá upon consistence*.

When the juice of the poppy has been properly dried, that is, rapidly, in a cool shade, and protected from dust, it possesses, at the spissitude of 70 per cent., (that is, containing 30 per cent. of water,) the following properties. It has in the mass a "reddish brown" color *(Werner)*, resembling that of copper (the metallic lustre obstructed); and when spread thin on a white plate, shows considerable translucency, with a "gallstone yellow" color, and a *slightly* granular texture. When cut into flakes with a knife, it exhibits sharp edges, without drawing out into threads; and is tremulous, like jelly, or rather strawberry jam, to which it has been aptly compared. It has considerable adhesiveness, a handful of it not dropping from the hand inverted for some seconds. Its smell is the pure peculiar smell of opium, heavy and not unpleasant. In this condition it is said to he "standard" or "*awwal*" opium.

When the juice, again, instead of being thus exposed to the air, has after collection been kept in deep vessels, which prevent evaporation, it presents the following appearances. A specimen of it which has the spissitude of only 60 per cent. has the apparent consistence or substantiality of standard opium of 70 per cent. But on minuter examination, it will be found, that this apparent firmness of texture is a deception, resulting from the mechanical constitution of the mass; it being made up with but little alteration of the original *irregular drops* collected from the capsule, soft within, and more inspissated without; this outer portion, as long as it remains entire, giving the general character of consistency to the mass, just as the shells of a quantity of eggs would do. For, when the opium is rubbed smartly in a mortar, this fictitious consistence disappears, exactly as that of the eggs, if pounded, would do; and in point of apparent consistence, as well as of real spissitude, it is reduced to the proportion which it properly bears to standard opium. When opium thus retains the original configuration of the irregular drops, it is said to be "*kachá*" or "raw;" when these are broken down into the *minute grain*, mentioned in the description of standard opium, it is said to be "*pakká*" or "*matured*," whatever may be the actual spissitude of the opium, whether 50 or 70 per cent. An opinion has been entertained, but on what grounds I know not, that the breaking down of this large grain is an injury to the opium; to myself it seems plain, that, as the large grain *always* disappears before the opium attains the spissitude of 70 per cent., and as this vesicular constitution of the raw opium retards the evaporation of its superfluous moisture, the more inspissated shell of each irregular drop checking the evaporation from its more fluid interior, the object should be to reduce the whole with the least possible delay to a nearly homogeneous mass, in which state the inspissation of opium advances with much greater rapidity.

Connected with this subject, is a question which has been raised, whether the inspissation of opium stored in large quantities in the agency godowns is effected more quickly, by removing, from time to time, into another receptacle, the pellicle of thick opium which forms on the surface of the mass; or by turning over the mass frequently,

and thus constantly mingling with it the pellicles successively formed. As agreeably to the general law of chemical affinity, whereby the last portions of any substance held in combination, and in course of gradual expulsion, are retained with increasing obstinacy, the inspissation of thin, is, *cæteris paribus*, always more rapid in its progress than that of thick opium; it is clear that the removal of the pellicle, by which opium of mininum spissitude is constantly exposed to the air, must accelerate the inspissation more than the turning over of the whole mass would do; because the latter process exposes to the air opium which is gradually acquiring a greater degree of concentration, and from which the evaporation will gradually be *slower and slower*. As evaporation takes place from the external surface only, it may be proper here to advert to the propriety of making all reservoirs for opium below the standard spissitude as numerous and shallow as may be permitted by the means of stowage; every practicable method being at the same time adopted to facilitate ventilation across, and to exclude dust from, the extensive surfaces exposed; and as little light being admitted as may be suitable to the convenience of the people at work.

It might be expected, from the ingenuity of the natives of this country, and from their imperfect notions of fair trade, that they would resort to a great variety of means for increasing, by adulteration, the weight of such an article as opium, in which fraud might be made so difficult of detection. But in fact, it is seldom that they attempt any thing of the kind, beyond keeping their opium at a low spissitude; an act by which, under the present searching system of examination, they cannot profit; and which, from its occasioning a deterioration of their opium through fermentation, entails the levying of a battá upon its quality, and therefore, in those cases, an inevitable loss. It is impossible that opium left to itself in the open air, during the parching season of the hot winds, could remain at the low spissitudes of 50 and 60 per cent., at which it is frequently brought to Gházípúr towards the end of that season: and we must therefore conclude, that artificial means are resorted to, in order to maintain it in that condition; either the frequent addition of water, or the burying it in a damp piece of ground, which is said to be sometimes done for the sake of security. When these malpractices have been carried too far, the gluten undergoes in a greater or less degree the process of putrefaction; the mass of opium first becoming covered with mould, and acquiring an opaque "yellowish grey" color and a pasty consistence, in which every vestige of the translucency and *grain* of the opium is lost; and the smell becoming venous, sour, and at last abominably fetid; in which condition the deteriorated opium is fit for none of the purposes of the manufacture, and is always destroyed, and its original value forfeited, by the *koérís*. It is to be hoped that their experience of the unvarying consequences of such folly, and the introduction of a superior class of gomáshtas, will in time convince them of the advantage, as well as the facility, of bringing in all their opium at very nearly the standard spissitude.

In some cases it would appear, from the fluid state in which they bring it for sale, as if they expected every drop of water which they add to it, to be assimilated and converted into opium. Occasionally, it would seem that they had admitted some suspicions of its having been watered too much; and their only remedy is to drive off the superfluous water by boiling: an operation which speedily reduces the mixture to a blackened and charred condition, easily recognized.

A more ingenious fraud, but which is seldom practiced, is, that of *washing out* the soluble and most valuable part of the opium, and bringing for sale the residual mass. In this process, the opium loses its translucency, and the *redness* of its color: it loses its adhesiveness also, not adhering to the hand like opium which has not been robbed of its soluble principle; and by these marks, without going further, the fraud is detected. *Sand* is now and then added, to increase the weight, and is at once detected by its grittiness when rubbed between a plate and a spatula.

Soft clayey mud is also, but very rarely, used for the same purpose: it always impairs the color and translucency; and can, as well as sand, be detected, and its quantity accurately ascertained, by washing the opium with a large quantity of water, and collecting the sediment, which is the clayey mud.

Sugar and *gur*, or coarse molasses, are sometimes employed to adulterate opium: they invariably ferment and give it a sickly, sweetish, venous, or acescent odor easily known.

Cow-dung, the pulp of the dhatúrá, or thorn-apple, and the gummy resinous juice of the bél, or Bengal quince, are seldom met with as fraudulent ingredients: the first may be detected by drying it to a powder, or by washing it with water, either of which processes brings under the eye the undigested shreds of vegetable matter, constituting the animal's food; but the two last are extremely difficult of detection, if not added in quantity sufficient to affect the color and smell of the opium, which generally happens in the few instances of their occurrence. The seeds of the dhatúrá are apt to get mixed with the opium, and afford a ready means of detection. A strange, but not uncommon, mode of adulteration is the addition of *pounded poppy seeds:* if reduced to a fine powder, the oleaginous seeds might enter into an imperfect chemical union with the kindred resinoid principle of the opium; but the fraud is never so skillfully effected as to produce this result; and the hard particles of the seeds are perceptible to the touch and sight. Malwa opium, though less now than it was eight years ago, is in general largely contaminated with oil, which is easily separated by dissolving the opium in water; and I have seen, in a few instances, the same fraud attempted within the Benares agency. As the oil is always in a rancid condition, its presence is betrayed by its odor, as well as by the glistening appearance which it communicates to the opium.

By long exposure to the heat of the sun, the texture of opium, whatever be its spissitude, undergoes a remarkable change, through the conversion of parts of its gluten into a species of birdlime. Its

shortness, or property of exhibiting sharp edges, when cut into flakes with a knife, disappears; and it draws out into long threads.

These two varieties of texture may almost always be recognized in cakes of Behár and Benares opium respectively; the former being exposed to the sun, in the process of drying the cakes, and the latter not. This diversity of treatment occasions a difference between the hygrometric properties of the cakes of the two agencies; the Behár cakes acquiring a more speedy but less permanent hardness than the Benares: whereby, though firmer in the shell towards the end of the hot winds, they are more liable than the Benares to soften and lose their shape during the rains. The immediate cause of this difference appears on making a clean section of the shells with a sharp knife. It will thus be found, that in the Benares shells, the *léwá* remains visibly interstratified with the petals, dark-colored, and tenacious; while in the Behár, it is in a great measure absorbed by the petals, which are apparently in intimate contact with each other, and is not to be distinguished from them; the *combination* being more easily effected by hygrometric changes of the atmosphere than the *independent* strata of leaf and *léwa* in the Benares cakes.

While, as at present, a considerable amount of inferior opium is produced, not safely applicable to any other purpose than the manufacture of *léwá*, its sacrifice is no great loss. But if all the opium brought to the agencies were of a good quality, the substitution of some less expensive vegetable paste would be an important desideratum. Any strong cheap mucilage or farinaceous paste, or perhaps some indigenous imitation of bird-lime, would answer for the inner portion of the shell; and an exterior coating of a resinous, waxy, or oily nature, impervious to water, would defend this from the moisture of the air.

In cutting open a cake for examination, the above points should be attended to. It should also be observed whether the external and internal surfaces of the shell are smooth: the former not knotty or fissured, and none of the interior leaves of the latter detatched among the opium: there ought, also, to be no vacuities between the strata of the leaves, such as are sometimes found, lined with mould, in faulty cakes, and the shell altogether ought to be thin, compact, and of equal thickness throughout. The shape ought to be as nearly spherical as possible: that being the geometrical form which under the smallest surface contains the greatest quantity of matter, and which consequently affords the least scope for the extrication of air and ultimate injury to the shape of the cake when that air escapes. Greater attention to having the earthen cups, in which the cakes are dried, perfectly hemispherical, instead of parabolical as they now are, would contribute to the desired sphericity.

In opening a cake, the next thing to be attended to is the manner in which the two hemispheres of the opium separate; the Behár will be found to retain its *shortness*, while the Benares draws out into threads. The smell should then be attentively observed and noted down, being strongest immediately after the opening, and giving at

that instant the fairest indications of the taste of the opium with respect to preservation; the pure narcotic, venous or acescent odor being then most strongly perceptible: in this respect the Benares will generally prove superior to the Behár. It is an important character; for the Chinese are great epicures in the flavor of opium, and object to it when it smells at all sour.

The surface of the opium should then be narrowly inspected, and the tint and shade of color, both by reflected and transmitted light, noted down, in terms of Werner's nomenclature; also the apparent quantity of *paséwa'* if any be present, which is almost constantly the case with Behár opium, where it appears like dark glistening fluid, lining the little cells in the surface of the opium As the depth of the color of opium in the caked state depends on the quantity of *paséwá* in it, or the degree in which it has been deteriorated by exposure to the sun, the lighter the shade, the better is the opium.

The chemical analysis of opium, after all the trouble that has been bestowed on it, is still in an unsatisfactory state. A perfect analysis, such as we possess of Peruvian bark, and of some other medicinal plants yielding vegetable alkalies, ought to eliminate the whole of the active principles, leaving nothing at its close but an inert mass possessed of no therapeutic power: and the essential principles thus obtained should equal (or, as in the case of quina freed from its bulky fibrous accompaniment, surpass) in activity, a quantity of the original substance equal to that from which it was extracted. But how greatly inferior are the powers over the animal economy, of a grain of morphia, in whatever state of purity or saline combination, to the quantity of opium that is required to furnish that single grain! Yet, for all that we can, chemically, see, we obtain by our analysis the whole of the morphia that is contained in opium. I suspect that the narcotic power is partly lodged in some unknown substance (not narcotic) insoluble in water: for I have, after careful and repeated washing until it ceased to color the water, found the insoluble residuum to act as an opiate with considerable energy. Although morphia, in a state of purity, can, like sulphur, be fused without change; yet, when in combination with the other constituents of opium, it is partly destroyed by a much lower degree of heat, greatly under that of boiling water; for the pharmaceutical and Chinese extracts are found to contain very little morphia; still, the former, as is well known, exerts great medicinal power, out of all proportion to the quantity of morphia, which analysis evolves from them. From all these considerations it would result that the proportion of morphia obtained, by the analysis at present known, cannot be regarded as a true exponent of the total narcotic power of the opium which yelds it. An additional source of fallacy in comparing the produce of different countries exists in the varying proportions which they contain of coloring matter, or extraction; a principle for which morphia and narcotine have a strong affinity, forming insoluble compounds* with it; and which, as

* This may partly account for the medical activity of the mass of opium above noticed.

well as narcotine, is much more abundant in Indian than in Turkey opium. Hence a considerable loss in the purification of morphia from the former, and an apparent, and probably real, inferiority in its quantity; although we know that good India opium is equal to Turkey in narcotic power.

Robiquet's process is the one employed by the opium examiner in Calcutta. The chief precautions necessary to ensure success and uniformity in its results are, not to use too much water at first; to see that the magnesia is brought to a red heat; not to expose any of the subjects of analysis to the sun, or to artificial heat, except in the washing and final solution in alcohol of the morphia; not to use too strong a spirit in washing the morphia and excess of magnesia; and to employ the strongest alcohol for its final solution before crystallization. Sertuerner's process is useful where it is not necessary to obtain the morphia in a separate state: and in practiced hands affords speedy and tolerably accurate information. It is probable that Robiquet's process will in time be superseded by that of the late Dr. Wm. Gregory, Edinburgh, which does not acquire the expensive use of alcohol, and yields more morphia, by 30 or 40 per cent.; affording in fact, the cheapest medicinal preparation known of Turkey opium. It consists in the exhaustion of the opium with water under the temperature of 90°; concentration of the solution at a low temperature; precipitation by slight excess of ammonia; elutriation of the precipitate with cold water; exsiccation of it at a temperature below 213,° and reduction to powder; solution in cold water by muriatic acid, slowly added in slight excess; filtration and concentration to the consistence of syrup; after which, the preparation on cooling, becomes a mass of crystals of muriate of morphia, moistened with a dark-colored solution of uncrystallizable muriate of narcotine and resinoid coloring matter. This solution is abstracted from the crystals by strong pressure between folds of bibulous paper; and the solution, crystallization, and expression repeated once or twice; after which the salt is obtained in radiated bunches of snow white silky crystals, containing 37 parts of muriatic acid and 322 of morphia. But for the unfortunate superabundance of narcotine, and comparative paucity of *obtainable* morphia, in Indian opium, the manufacture of the muriate on a large scale might advantageously be established, at one of the Bengal agencies, for the supply of the Indian medical department with this admirable preparation, the marc (?) of which would be available for the manufacture of *léwá*.

Connected with the subject of analysis is another which claims some attention from the opium examiner, the accuracy and sensibility of the weights and balances used in his department. Neither of them should ever be allowed to be soiled with opium; and the former should occasionally be compared, to see that all weights of similar denominations mutually correspond within one-tenth of a grain, and that the larger and smaller weights are equally accurate multiples and sub-multiples of each other. The knife-edges of the balances should occasionally be sharpened, so that they may turn with as little friction as possible;

and the three points of suspension, whenever deranged, should be brought into a perfectly straight line, by bending the beam with the hand: if the centre edges be too low, the balance will, when loaded with its proper weights, be in a state of unstable equilibrium, and will cause great mistakes; and if they be too low, the balance will lose its sensibility, and cannot be depended upon within perhaps two grains. Care should also be taken that the distance from centre-edges to arm-edges are exactly equal; from accidental violence, this element of accuracy is very apt to be deranged, and causes great confusion when overlooked.

Were all the opium brought for sale unexceptionable in quality, free from *pasé'wá'*, and liable to battá on account of deficient spissitude only, there would be, supposing the battá levied with tolerable accuracy little difference at the end of the manufacturing season, between the registered receipts and expenditure of opium: and, supposing it levied with *strict* accuracy, there would be a small loss, occasioned by accidental spilling of semi-fluid opium, adhesion to the persons and clothes of the work-people, and other unavoidable sources of waste. But as, in the present state of things, battá to a considerable amount is levied on quality, the effect of its deduction, if not kept separate from the battá on spissitude, would be to show, at the end of the year, a deceptive deficiency of receipt compared with expenditure. Battá upon quality, or *pasé'wá'*, therefore, should not be admitted into the godown accounts; and should be confined to the account between the receiving-officer and the *koé'rí's*.

There are no satisfactory experiental means, except perhaps by the specific gravity, of ascertaining the precise quantity of *pasé'wá'* in opium. It will hardly drain at all from opium of higher spissitude than 60 per cent., and not readily from opium of even that spissitude, unless assisted by a slight fermentation, which greatly facilitates its flow: the *pasé'wá'* trickling down the sides of the air-vesicles thus formed. The only convenient rule for the adjustment of battá upon *pasé'wá'*, or upon quality generally, is, that absolute *pasé'wá'*, if not too thin, and the worst opium purchased for the Company, being paid for at half the price of standard opium; for different grades of inferiority in quality between those two conditions, as fair a gradation of penalties shall be fixed, as can be formed from an estimate of the sensible qualities.

It has been thought, that specific gravity might prove an accurate index of the spissitude of opium; which is, however, not the case; its soluble principles, and that portion of its insoluble constituents which, slightly modified, unite with the soluble in forming *pasé'wá'*, acquiring, in their transition to this altered state, a considerable increase of density. Opium, therefore, containing *pasé'wá'*, is much heavier than an equal *bulk*, at the *same* spissitude, of pure opium. I have found this condensation to bear the same proportion to the quantity of *pasé'wá'* apparently contained: and it might, probably be found to indicate, with considerable accuracy, the proper amount of battá to be levied for *pasé'wá'*, were such nicety desirable or conveniently attainable.

The regulation of government, which requires civil surgeons to report upon the relative value of parcels of confiscated opium, according to the quantity of foreign matter which they may contain, is obscure on two important points: first, whether, and beyond what degree of thinness, *water* is to be considered as foreign matter; and, secondly, whether and beyond what degree of deterioration, fermented and *pasé'wá*, converted opium, when contained in the contraband article, are to be considered as "foreign matter." I have been in the habit of regarding them as foreign, when the water exceeded 30 per cent., and when inferiority in quantity was palpable; because a different practice would defeat the end, for which the regulation was framed, of securing a fair reward to the informer. Under a less strict interpretation of the rule, he would be tempted to double the weight of the seized opium, and consequently his own reward, by adding to it, a sufficient quantity of water, or of bad opium, such as may at all times be clandestinely purchased for a trifle in the poppy districts.

ART. IV. *Second Report of the Society for the Diffusion of Useful Knowledge in China, read before the Members of the Society on the 10th of March, 1837, at 11 A. M., in the American Hong, No. 2.*

[The president of the Society having taken the chair, the secretary proceeded to read the Report, after which, the following gentlemen were elected officers for the ensuing year: Wm. Jardine, esq., president; Wm. Bell, esq., treasurer; C. W. King, esq., H. H. Lindsay, esq., and the Rev. P. Parker, M. D., members of the committee; the Rev. Messrs. E. C. Bridgman, and C. Gutzlaff, Chinese secretaries; and J. R. Morrison, esq., English secretary. The following is the Report.]

HAVE any of the friends of this Institution assembled here this morning, in the expectation of hearing, that great deeds have been performed, and that great and speedy results may be looked for, as the reward of their efforts in behalf of China? Such deeds have not been achieved, nor are such results to be looked for so speedily. Your Committee have endeavored to effect some good; but their utmost efforts are faint and feeble, when compared with the magnitude of the work before them. They are not, however, discouraged; for they would make this their motto: "Magna est VERITAS, et prevalebit."

If we look back to the position of our own favored countries not three centuries ago, we see much, very much, to encourage us. Has a light arisen there, out of the midst of darkness itself? Is that light now spreading abroad in every direction? And shall it not also penetrate the gloom in which this empire — this, in some respects,

highly-favored country — is enveloped? When we look at India, we see still more to encourage us. Not half a century since, how small was the band of Englishmen who cared to acquire a good classical knowledge of any of the languages spoken in those vast possessions of the British crown! And how much smaller, then, the band of Indian subjects who were willing to give any attention to the language of the foreign intruders! But now, we see natives of England and of India uniting together in the business of life, readily conversing or corresponding with each other on every branch of science and of useful knowledge. We see the Indian boy, eagerly studying the language of the foreign ruler; and we see the young man, who has already acquired a knowledge of that language, drawing from its rich treasures abundant food for his mind and intellect. And with this view before us, why should we despair of doing great good for China, even during the few years that we may be united in this work? And why should we not entertain the hope, that when another generation has arisen, this empire will have advanced some steps towards the seat that awaits it in the general council of civilized nations? Nor will such an advance, when once commenced, be by any possibility hindered or retarded.

We have alluded to the gloom of ignorance in which this country is enveloped: and we have said, that, great as this gloom is, we are not therefore discouraged. On the contrary, the contemplation thereof urges us to more earnest efforts to bring in that light, which, we feel assured, must ultimately pervade this empire, from one end of it to the other. But some, perhaps, looking cursorily at the Chinese, and seeing them to be an industrious, cheerful, contented people, having many of the arts and conveniences of civilized life, may be of opinion, that, as regards their temporal interests, they do not lack any knowledge that can be of essential value to them. If such there be, we would point them to the great improvements that have taken place in almost every branch of European art, within a short period, by the spread of scientific knowledge. And were these improvements to be introduced into China, would not the time and labor of this industrious people be greatly economized, and the quality of their manufactures be much improved? Have we not, by means of improved machinery, or by the aid of science, surpassed them in some of those manufactures which were once peculiarly their own? And why should we not communicate to them the advantages we have thus derived, by which they and we would find equal benefit, in the improved quality of their work? In the west, we have gained and are gaining much benefit to commerce, by alterations of political measures, arising out of a careful study of the history of commercial operations in various parts of the world. Were we, now, to give to the Chinese, likewise, a succinct history of commerce, may we not hope, that they also will see the advantage derivable to themselves by similar changes of policy?

As an instance of the pratical advantage that we may immediately and directly convey to the Chinese, it may be relevant to remind the

friends of this Institution, that the manufacture of Prussian blue was introduced into this country, from England, by a Chinese; and that the cost of the dye was thereby considerably cheapened to the poorer classes of Canton, whose dress is almost invariably of that color. As an instance also of the injury arising to them from their ignorance of science, it may be mentioned, that Indian Indigo, though cheaper as well as better than what is used as Indigo in China, cannot be imported into this country, the chemical solvent for it not being known to any of the dyers here. Its introduction was attempted, and failed on this account alone.

We have enumerated advantages arising out of such knowledge as we may *impart* to the Chinese. On the other hand, we might also, it is not improbable, were we brought into constant intercourse with intelligent and well-informed natives of this country, derive much practical information, and hence receive considerable direct benefit, even from them. Few, if any, in this liberal age, will be disposed to deny this; and we will not, therefore, dwell on the point, further than to remind those who may doubt it, of the manufacture of porcelain, originally taken hence to England,—of the growth and preparation of tea, nowhere but in this country carried on in any degree of perfection,—and of the skill manifested by the Chinese in dyeing, there being few colors which they are not able with facility to imitate.

In the absence of encouraging prospects immediately before their eyes, your committee have thus endeavored to turn their own view, and that of the friends of this association, to more distant and future prospects; and to show that these wear a bright aspect. They will now return, to point out the main difficulties by which they have been impeded, the work which they have nevertheless accomplished and continue to carry on, and the more special objects which it is their desire to attain.

They will first, then, draw your attention to the difficulties which they have had to encounter. These have been of two kinds, the one in its nature temporary, the other of a more permanent character. The first has arisen from unfriendliness (originating in ignorance) on the part of the Chinese government, to every effort made by foreigners for the attainment of a more social and intellectual intercourse with the people of this empire,—and from the consequent insecurity of any steps that could be taken, in this country, to print and publish the works of the Society. This difficulty has been removed, by making arrangements for printing our works at Singapore under the care of Mr. Moor, of that place, who has most readily and zealously undertaken the task of gratuitously superintending this very necessary work. That gentleman has also promised to form arrangements for the sale of the Society's publications, both at Singapore, and at such neighboring places as are most frequented by Chinese emigrants.

The second difficulty is of a more formidable nature. It consists in the want of a sufficient number of writers, able to pen such works as your Committee is most desirous to see written in the language of this country. Those who are sufficiently conversant with the Chinese

language to be able to write it intelligibly are as yet very few; and a variety of other engagements allow to them, even, but little leisure to supply the wants of the Society. Hitherto, your Committee has found assistance of this nature only in China; but it looks also to the Straits of Malacca and other places, where are several gentlemen, of different nations, who have made considerable attainments in the language, and whom the Society has the honor to reckon among its corresponding members. While fully aware of the multiplicity of duties which engage the attention of these gentlemen, in a climate suited rather to repress than to invigorate the mental energies, your Committee trusts, nevertheless, that its hopes from this quarter will not be disappointed. It indulges a sanguine hope, that, ere another year shall elapse, it will be able to tell of works commenced under the auspices of this Society, by some at least of the gentlemen to whom allusion has now been made.

Entertaining this hope, your Committee has drawn up a plan of operations, sketching the outlines of what it regards as most demanding attention, the details to be filled up in such order as the engagements, or literary inclinations, of those gentlemen who kindly tender their assistance, shall render most convenient. The divisions of this plan are,

History, including Biography;
Geography, including Travels;
Natural History;
Medicine;
Mechanics and Mechanical Arts;
Natural Philosophy;
Natural Theology;
Belles Lettres.

These divisions have been arranged in the order which their respective importance seems to demand. Some of the mechanic arts should probably hold a higher place; but mechanics, as a science, should not, at least, precede the three first divisions, history, geography, and natural history. Your Committee would here remark: bearing in mind, that, as we have to *create* a taste for our works among our Chinese readers, it becomes important to avoid lengthy treatises on subjects uninteresting to them, or in which the interest entertained by them is inadequate to lead them through a minute detail. On the other hand, when treating of mechanic arts and kindred subjects, we can hardly perhaps enter into too minute a detail, provided that this is done clearly and perspicuously. It should never be forgotten, to use every means of rendering our works interesting and entertaining, in the style and manner of treating them, as well as in the subjects treated of. In further sketching the outline of their prospective labors, your Committee would suggest the following more detailed arrangement.

History.

1. A general view of Universal History.
2. Histories (more in detail) of such countries as we may suppose the Chinese to be most interested in—as England, British India, Portugal, the United States, the Indian Archipelago, &c. (With maps.)

3. History of Commerce.
4. History of Colonization.
5. History of Literature in the West.
6. Biographies.

Geography.

7. An introduction to Universal Geography.
8. An Atlas, also maps separately.
9. Progress of geography, and voyages of discovery. (With maps.)
10. Entertaining travels in various countries, in the manner, perhaps, of the Modern Traveller. (With maps.)

Natural History.

11. A general view of nature.
12. Separate treatises on the several branches of Natural History, Zoology, Botany, &c. (With plates.)

Medicine.

13. Medical History in various countries.
14. A popular treatise on Physiology.
15. Introductions to the several branches of medical science, plates of anatomy, &c., for the use of a medical school, rather than for general publication.

Mechanics and Mechanical Arts.

16. Laws of Mechanical forces, and illustrations of them as witnessed in the ordinary operations of nature. The more peculiar province of Physics may be in some degree invaded. (Plates.)
17. Treatises on Useful Arts,—as cotton-weaving, manufactures of woollens, glass-blowing, preparation of raw-silk, &c.,—explaining the improvements in machinery, by which we are enabled to excel the Chinese.

Natural Philosophy.

18. Lord Brougham's Treatise on the objects, advantages, and pleasures of Science, rendered freely into Chinese. (This should perhaps precede mechanics.)
19. Popular introductions to Astronomy, Hydrostatics, Hydraulics, Pneumatics, Optics, &c.

Natural Theology.

20. Elucidations of the more striking arguments of Paley and others.

Belles Lettres.

21. Information regarding the popular literature of various countries.
22. Introductions to various languages, vocabularies, grammars, &c.—To the above may be added, under a division of

Miscellaneous Subjects,

23. A Magazine, which shall contain less detailed articles on any of the above subjects, moral essays, literary miscellanies, &c.
24. An Almanac, intended to replace with useful information, scientific and statistical, the present Chinese Almanacs, which are almost wholly filled with idle prognostications, details regarding propitious and unpropitious days, and so forth.

Of the works which have been above enumerated, the first, a general view of universal History, in three Chinese volumes, has been completed, and is in course of publication. A history of the United States, and an Introduction to universal Geography, accompanied with an atlas, are also being prepared. The delay in the completion of the geography has retarded the publication of the map of the world mentioned in last year's report. A thousand copies of Mr. Gutzlaff's Chinese Magazine, in twelve numbers, are in the hands of the Society's Agent at Singapore, for publication in that and neighboring places. The publication of the Chinese Magazine, for the future, has been undertaken by the society. Its Chinese and English Secretaries, and (it is hoped) some of its corresponding members, will contribute to its pages. A price current will be attached to it. This Magazine being published, in common with all other works of the Society, at Singapore, it is desirable that an editor should be found for it on the spot. In the meanwhile, it will be edited jointly by Mr. Gutzlaff and the English Secretary. The first number published under the Society's auspices has probably issued from the press, ere this, being for the first month of the current Chinese year. Your Committee have reason to hope, that the editing of an Almanac will be undertaken by one of the Society's Secretaries, in the course of the present year. They have cause also to hope, that some others of the works above enumerated will shortly be presented to the Society.

Mention was made in the last year's report, of the importance of preparing a Chinese nomenclature, conformably to the pronunciation of the court (or mandarin) dialect, so as to prevent the confusion which must necessarily arise from the use of different modes of writing the same names. Progress has been made in this work, but it is not yet complete; nor can it be rendered perfect for some years to come.

Your Committee have much pleasure in alluding to the continued labors of the Rev. Mr. Dyer, Malacca, and of M. Panthier, Paris, in the preparation of moveable metallic types for printing Chinese. They have not recently heard what progress has been made by Mr. Dyer. From M. Panthier they have received very minute information, and specimens of the types cast, under his direction, by M. Marcellin-Legrand at Paris. They are happy in being able to speak favorably of these specimens. Until their labors are more extended, and the publications of the Society more numerous, they have not, however,

felt themselves called upon to expend any large sum in the purchase of a font of moveable types.

From the Treasurer's account, it will be seen, that the funds of the Society at present amount to $1250.48. Out of this sum the Treasurer for the ensuing year will have to meet the drafts of the Society's Agent at Singapore, for cost of printing already executed, and for that and other expences further to be incurred on the publications of the Society.

It yields your Committee great pleasure, to acknowledge the liberal countenance and support afforded to the Society by several individuals whom it has the happiness to rank among its members; and especially, to acknowledge the favorable notice taken of this Society by the Royal Asiatic Society of London.

In concluding, your Committee may be permitted to allude to the labors of other and kindred institutions, which occupy portions of the same field, and, in common with this Society, aim more or less directly at the amelioration of the intellectual condition of the Chinese. To the Morrison Education Society, in particular, as well as to the Anglo-Chinese College and the Singapore Institution, this Society looks for aid and coöperation of a highly important nature. It is not by the efforts of a few foreigners, alone, that we are to carry into the midst of China the benefits of knowledge. The Institutions to which we have just alluded will train up native youth in a good knowledge of foreign languages, and of sciences and arts; and, at the same time, will have them well instructed in their own language; and these are the persons who must be mainly instrumental in diffusing useful knowledge among the Chinese, their fellow-countrymen. This Society, on the other hand, may usefully coöperate with those Institutions, by furnishing to them books suitable to be employed in the education of Chinese Youth.

ART. V. *Obituary of the Rev.* EDWIN STEVENS, *late seamen's chaplain in the port of Canton, with a brief review of the occurrences recorded by his own pen during his ministry.*

REV. EDWIN STEVENS, the late seamen's chaplain in this port, died at Singapore January 5th, 1837, aged 34 years. He was born and received his early education in New Canaan, Connecticut; in 1824, he entered Yale College, and, having completed a full course, graduated with high honors in 1828. He then spent a year in Aurora, New York, as principal of an academy. Near the close of 1829, he returned to New Haven, and there joined the theological seminary; was tutor in the college in 1831–32; and in April 1832,

agreed to the proposals of the American Seamen's Friend Society to become their chaplain in the port of Canton. He was ordained a minister of the gospel at New Haven, June 7th, 1832; and on the 29th of the same month embarked, at Philadelphia, for China. He arrived here in the ship Morrison, October 26th, and continued in his station, as chaplain, till March 1836, when, according to an engagement made before leaving America, he entered the service of the American Board of Commissioners for Foreign Missions. He however continued to preach at Whampoa, till about six weeks before his death. The journal, which he kept of his labors, in behalf of seamen, commences November 11th 1832, and closes November 20th, 1836.

Of his childhood, and youth, and academical career, we know but little. From the various appointments and diplomas which he received, it is evident that he held a high rank among his fellow-students. Mathematics, and the Latin and Greek languages, were his favorite studies. It was not till near the close of his collegiate course that his mind became deeply interested in the subject of religion, having previously lived a "very careless and unprofitable life." After his thoughts were turned to a due consideration of his relations as a moral and accountable agent, he soon formed the purpose of living a "new life." The change in his sentiments, and conduct, was as life from the dead. To do good to others, and not merely to enjoy himself, now became the chief object of his attention,—an object which he steadily and vigorously pursued till his last sickness. During his residence here he made considerable proficiency in the study of the Chinese language, in which, however, accuracy rather than rapidity characterized his progress. He had the pen of a ready writer. Besides his sermons, he wrote much for the press: some of his papers were published in America, others appeared for the first time in our own pages. Among these last we may mention, the sketch of the life and labors of Dr. Milne, the obituary of Dr. Morrison, the review of Semedo, a geographical and historical account of Formosa, a history of Chinese pirates, an account of A'ssám, and a paper respecting the promulgation of the gospel in China.

Strangers sometimes thought him austere and unsocial. He was not so: he was often reserved, but never harsh in his remarks. He possessed a lively imagination, a keen sensibility, with a great share of good common sense. Before he "put away childish things," he was, to use his own language, "in sports and jolly freaks, a match for any one." But during the last years of his life he never indulged himself in aught that was vain or sportive. In seasons of affliction his sympathies were easily touched; and his passions, naturally quick and strong, were kept under most complete control. His expedition on the river Min, where he was exposed to the shot of Chinese matchlocks, affords a fair specimen of his conduct in seasons of danger. More than once, in cases of disorder and mutiny, he was instrumental of preventing murder. He was, like the seaman, a citizen of the world; and though commissioned and supported by a society in America, he felt the same interest for those of other countries as he

did for those of his native land; and he enjoyed alike their respect and esteem. As an instance, in point, we may cite the following address and list of names, which we find stamped in golden letters on the inside cover of an elegant copy of the Bible, which he bequeathed to his widowed mother,—the only legacy he left to any of his family, for he died without property, having devoted whatever he possessed to the cause which he espoused.

TO THE

REV. EDWIN STEVENS,

PRESENTED BY THE UNDERMENTIONED COMMANDERS TRADING AT CANTON.

Barque	Belhaven - - -	M. Crawford.
Ship	Jumna - - - - -	J. Pindar.
Ship	Gipsey - - - -	R. Higuet.
Ship	General Gascoyne - -	J. Fisher.
Barque	Wm. Rodger - - -	R. Crawford.
Ship	Eliza Stewart - - -	R. Millar.

To the foregoing sketch of his life and character, we have only space to add a brief survey of his labors during his chaplaincy. He resided in Canton, but used to visit Whampoa every week, whenever practicable,—which was on an average, we think, about two Sabbaths in three. It was his rule to go down on Saturday, and to return on Monday; yet if no opportunity offered on Saturday in any of the foreign boats, he sometimes procured a Chinese boat, or secured a passage in some one from the shipping, which might be going down in the morning of the Sabbath.

His labors were chiefly, preaching, distributing Bibles and tracts, visiting the sick, and burying the dead. He usually preached from notes, sometimes full and complete, but oftener containing merely the heads of his discourse. Many of these notes he left among his private papers, and they show at once the tenor of his preaching. The topics on which he most frequently discoursed were, repentance, faith, holiness, and, in a word, "Christ and him crucified." Some of his favorite texts were these: For what is a man profited if he gain the whole world, and lose is own soul; Follow peace with all men, and holiness without which no man shall see the Lord; How shall we escape if we neglect so great salvation; For whatsoever a man soweth that shall he also reap; Choose you this day whom you will serve; The word of the Lord is tried. From his sermon on this last passage, we quote the concluding paragraph, as a fair specimen of his usual style of preaching. After briefly explaining the text, and illustrating its truth by citing a great variety of apposite facts, he then says—

"In conclusion I remark, the word of the Lord has been thoroughly tried in all ways. It has been tried by history, and not found

wanting. It has been tried by astronomy, by geology, by argument, and by ridicule. It has been tried during thousands of years by every man who pleased, in every way he chose; by all the learning which could be brought against it, by the conceited and ignorant; by friends and foes, by him that believed and him that believed not. It has stood all trials, and now remains in our hands with daily increasing evidence, that the word of the Lord that shall stand. Besides the direct evidence for the divine origin of this book, this unrivalled number and variety of ordeals through which it has successfully passed, are enough to commend it to our attention as a record of perfect and tried truth. After all this, it cannot be too much to ask, that it be regarded as of undoubted veracity,—that every word will exactly come to pass. And if it be indeed so, what will be our condition? That word records the establishment of religion in the world, and the promulgation of the law of God which condemns us for sin; it describes the atonement of Christ, by which a sacrifice and mediator is offered to men, and the way in which the blessings of this salvation become our own, by a spiritual change of heart and supreme devotion to the will of God during this life; and it makes known to us the promise of a resurrection of the body, of our immortality, of the judgment day, of the sentence of everlasting punishment upon the impenitent, and of eternal forgiveness and blessedness upon the servants of God. It assures us that this life is the accepted time to attend to the salvation of the soul, and that we must strive to enter the straight gate, because many seeking it too late, will never enter in. The promises of happiness and threatenings of misery are also all true." * * * * [A few words here are lost.]

The number of his auditors varied from 15 or 20 to 100 and upwards: the average number was, perhaps, 40 or 45. There was, however, considerable improvement, in this as well as in some other particulars, during the short period of his public ministry: in the early part of it, he was repeatedly denied the use of the cabin or the deck which he requested for divine service, and in various other ways met with opposition; but subsequently the opposition ceased, and he was welcomed by large and attentive auditories. Under date of Nov. 13th, 1836, he wrote in his private journal: "Preached this day in the Splendid, Rogers, to an audience of some 80 or 100 hearers, from the text, 'Fools make a mock at sin.' I enjoyed considerable freedom, and there was the best attention; but I saw no apparent conviction of sin, or sorrow for it." The next Sabbath, November 20th, he preached his last sermon at Whampoa, of which he made the following note, the last in his journal: "Preached this day in the Otterspool, Richardson, to a large and attentive audience, from the words, 'Come unto me all ye that labor and are heavy laden, and I will give you rest.' No one seemed deeply affected."

After preaching, he often took occasion, before the assembly dispersed, to distribute Bibles and tracts. In the autumn of 1833, he established a biblical exercise, in the afternoon of the Sabbath, at which some twenty or thirty attended. In visiting the sick, he was

attentive, affectionate, and faithful. He was also always ready to attend the burial of the dead. A service of this kind he performed the last time he visited Whampoa; and many others are recorded in his journal. Two or three we will notice. "This morning, (Nov. 3d 1833,) we buried poor * * * on Danes Island. He died yesterday morning alone in his state-room. The previous morning I was with him, and conversed freely, and asked him whether he hoped to get well; he said, 'oh yes;' I then asked him if he felt prepared to die; after a long pause he said, 'I suppose I must say so, whether I am or not;' no, I told him, you need not say so, if you are not; but you may use your time in preparing to die. 'Ah,' said he, 'I can do no more, I cannot think of any thing, I am so weak.' The next day I heard he was dead, leaving no traces of repentance." On the 16th of the next month he wrote: "I went down on Saturday morning to attend the funeral of captain * * *, who died the night previous. He had been sick about a fortnight of an inflammatory dysentery. We buried him in the afternoon on French Island, nine or ten captains attending, and sixteen boats' crews. I read part of the Episcopal service; and saw several eyes filled with tears as we covered the remains of poor * * *." On the following Friday he was again called to the same mournful service.

Such were the duties of his chaplaincy; and such his manner of performing them. The prevalence of intemperance among sailors, and the direful evils resulting from it, grieved him to the heart. He adopted the principle of entire abstinence, from all intoxicating drink; and often declared that he should feel it his duty to do so, were it only for the sake of dissuading seamen from a practice so destructive to health and character; and frequently remarked that, he scarcely knew of any difficulty on board ship, which did not originate in this one cause. It was his opinion also, that most of the sickness and deaths occurring at Whampoa resulted from the same sourse. His journal abounds with facts corroborative of these statements.

A few words respecting the last sickness of the seaman's friend must close this brief notice. He embarked from Macao in the Himmaleh, captain Fraser, on the 3d of December, for a cruise in the Indian Archipelago. He arrived at Singapore on the 15th of the same month; and soon after complained of head-ache and a fever. The sensation in his head he described as a severe pressure, not as a pain. His friends soon became anxious as to the issue of his disease, and employed every means in their power which seemed likely to restore him to health or to prolong his life. When his illness became alarming, he spoke of the possibility of his not recovering and referred with evident satisfaction to the time when he deliberately resolved to live a righteous and godly life; and he seemed to rejoice in the thought that he had been led, long before, to make that surrender of himself into the hands of him who could lead him safely through the "dark valley." His fever was "an insidious intermittent, which by varying frowns and smiles kept the physician at bay," till, after alternating through a mazy course of symptoms, it carried

him off, by an effusion upon the brain, at a moment when all around him fondly thought they saw the dawn of a happy restoration. His physician adds: "Throughout his sickness he was all gentleness and patience, and very grateful for every thing done for him. He was like a child in the hand of God, and not solicitous in regard to any thing. It was a pleasure and a privilege to attend to the wants and smooth the dying pillow of such a patient."

Art. VI. *Embassies to China: observations on former ones, and on the necessity of establishing immediately commercial and political relations with this country; supineness of foreign governments, unwise and dangerous; probable consequences to Great Britain, from a rupture with the Chinese in the absence of a treaty.* By a Correspondent.

[Our Correspondent has proposed to himself a very difficult and arduous task, but, nevertheless, a very important one, demanding far more attention than it has hitherto received: we are glad to see that he approaches the subject with a settled purpose of doing it justice: and we trust that he will pursue the investigation, till the duty of foreign governments is made so plain that it cannot and will not be any longer neglected.]

Among the many egregious blunders, committed by the natives of the western world in their relations with Asiatic states, those of them which have been caused by, or which have emanated from, China, are, undoubtedly, entitled to the foremost rank. Whether we look to the magnitude of the errors themselves, or to the consequences with which they have been followed, the truth of this will be equally apparent. It is, in great part, to an obstinate and systematic perseverance in a system of nonsensical self-contradictory preconceptions, that we are to trace the cause of the present humiliating posture, in which foreigners yet find themselves, with regard to the Chinese. That much of this, as respects England more especially, has arisen in the cupidity of the E. I. Company, and their culpable blinding of the truth, to call it by no harsher name, few will now be found to dispute; but that a large share of the blame rests with those who might have formed correct opinions, had they pleased to take the necessary trouble, is, it appears to us, equally undeniable. The ministry of Great Britain have, for more than a century, given up the trade of this country, "for a consideration" doubtless, to a band of monopolists more than once,—in fact, selling a part of the birth-right of the nation, for a mess of pottage, in the shape of a gift or loan on advantageous terms; at times when it was not convenient, or deemed safe, to apply for it, directly or openly, from the people of England: thus sacrificing some of the best interests of the people to temporary embarass-

ments, and making duplicity, in the management of the public money, lead to yet further injury, by the obstruction of a trade which should have been greatly beneficial to the nation at large. That it was not so was, in plain truth, the result of this disgraceful transfer, or systematic sale, as it may be termed, on the part of the ministry, of rights entrusted to their guidance; fostered by the ignorance with which the E. I. Company managed to veil all that related to China. To such a pitch had this, at length, been allowed to go, that it may be questioned whether, till the end of the last century, China was not, of all the countries of the world, that of which the least was known by the people of England. It was believed that tea and porcelain jars came from there, and that the E. I. Company alone traded to it; but, beyond this, and some vague ideas of the power, peculiarity, unchangeableness of the people, and their jealous exclusion of foreigners, information was not possessed, or sought for. Quarrels continually went on about the right to trade with, or to possess places of, no real value, while the immense and valuable commerce with a third of the human race, of considerable (at least comparative) civilization, was left, unheeded, to the control of the commercial sovereigns of India; and great part of the seas—the highway of nations—declared a *mare clausum*, from which all "interlopers" were to be rigidly excluded; converting the Capes of Good Hope and Horn into the bounds of a *preserve*, devoted to the enjoyment of a selfish and narrow minded monopoly. Thus, separated from the rest of the world, unvisited, save at long intervals and accidentally, by even vessels of war of the British nation, China might have much longer remained, had not the energy of the manufacturers and merchants, impelled by the constant pressure to find new outlets for their goods, fixed their eyes on China as a desirable mart: and, making determination and reiteration serve in lieu of influential support and ministerial favor, at length, though for years foiled and sneered at, wrung from the reluctant hands of the ministry that restoration of their rights, from the use of which gigantic falsehood and an all but a miraculous degree of ignorance had combined so long to debar them.

Among the causes which led to this happy consummation may be placed the embassies (as we have been accustomed to call them), which the fear of losing some of their advantages, and the hope of recovering others, which they had tamely allowed to remain in abeyance, induced the E. I. Company to solicit from the king of Great Britain. Whether there was a deeper motive hidden under this, that of obtaining, *for the E. I. Company, exclusive privileges of trade, from the emperor of China*, so as effectually to rivet the bonds, and render perpetual the exclusion of British merchants in general, it were now but vain to inquire: the thing is, however, not the less probable.

Fortunately, these embassies failed; but public attention, once aroused to the subject, was not a gain to be repressed; and the information, which has met the demand, during the last few years, shows plainly how deep and dark was the ignorance in which they originated,

or, as more probable, were arranged by the government of Great Britain. We do not of course include in this the direction of the E. I. Company, who well knew the value of what the others disregarded; the charge against *them* is certainly not *ignorance;* but, excepting them, we are, we think, justified in the assertion with which we set out; and in no way was this very strange, and all but inconceivable, ignorance displayed so broadly as in the embassies to the court of Peking.

These we propose to ourselves to dissect, separately, in future papers; confining ourselves, now, to general views and remarks on the subject, which has not, as it seems to us, attracted all the attention and inquiry which a subject of such vast importance deserves. Great Britain, Russia, Holland, and Portugal, are the nations of the west which have sent embassies, or "tribute," to the "central land." The trade of France and Spain has not been of magnitude sufficient, we apprehend, to call for it, and the same may hold as to Sweden and Denmark: the U. S. of America have, hitherto, had no official intercourse with the general or local government; and this will give them a great advantage, over all others, whenever the interests of their commerce, or the demands of national honor, shall make such a circumstance necessary. It may not be too much, even in this early stage of the inquiry, to predicate that the experiment will be tried by them: of this we are sure, that, untrammeled as they are, and free to act as the real dignity of their country dictates, and vigorously and determinedly as they generally act, in affairs of international importance, it would be greatly to the advantage of all foreign nations that the chance should fall to the lot of America. If undertaken at all, we have confidence that it will be done well, and in a spirit of general good, such as it would be foolish to look for from the older and more fettered nations of Europe. The cause will be a noble one, and we trust that it will not be sullied by silly fancies of exclusion and peculiar privilege, which it has been too much the policy of mercantile nations to aim at, as the grand desideratum in all treaties of commerce with foreign powers.

Whoever has been, for the last few years, but moderately attentive to foreign relations with this country, cannot but have noticed the rapid and general spread of the opinion that some appeal to the court of Peking cannot very long be dispensed with. Recent converts from an opposite opinion are many and frequent; and those who advocate, and those who deprecate, violence or threats, seem alike anxious to see the point fairly tried. The unsound and critical state of the great foreign trade with Canton seems to render this unavoidable; and we have little doubt but that the spirit which has wrenched asunder the shackles of the E. I. Company will not rest till a sound, fair, and just understanding is made to replace the wretched and ricketty system of disgrace and chicane, with which their predecessors, for reasons best known to themselves, were content to put up. We do not shut our eyes to the fact that, up to the present moment, the subject has been one of singular unpalatableness to the British govern-

ment. Justice to Ireland, abolition of sinecures, or real reformation of ecclesiastical establishments, harsh and unwelcome as each of these may sound, in the ears of a troubled and tottering ministry, could not be more uninviting than would be the demand that an attempt, at least, to effect a commercial treaty with China should be made: the pressure is however felt; the cry for it is begun, and, though it may be put off for a time by subterfuge and equivocation, yet it must come at last. When the footing, on which England stands, in China, is fairly appreciated — when the unprotected and uncertain state of the trade is, as it must soon be, generally known, it will not, we trust, be in the power of any government to treat with scorn the demand that will be made; and the semblance of a commission in China, absurd and useless as it now is, will be laughed at, till, in very shame, it is withdrawn, and the expense of it devoted to the attempt to ameliorate the condition of the trade, instead of keeping up the mere hollow pretence of authority.

Impotent, useless, aimless — powerless to protect — notoriously inadequate to any, even the least useful purpose, for which it could be pretended that it is maintained, this unreal mockery exhibits a fair specimen of the sense, knowledge, and judgment, with which the first commercial nation of the globe has protected and advanced the interests of a trade even now yielding a revenue, wanting which the energies of the national executive must be most seriously affected, if not totally paralized. This last reason, cogent and intelligible as it is, must erelong, have its due effect, and may work out the end which claims, of greater moral strength, though not of such immediate expediency, might call for in vain. The direct amount paid into the British treasury, by the trade with China, may be estimated at not less than four and a half millions sterling per annum. The employment of shipping, and other less direct benefits to the country, we do not stop to consider. It may be worth an early and attentive consideration by the British ministry, or better still by the thinking men of the people, how a continuance of this enormous sum may be guarantied to the nation. Its sudden stop might, within a few months, be productive of the most serious embarassment; and, in a political view, might have consequences of which the mere overthrow of a ministry would be but a trifling item. It should be borne in mind, that, during the time of the E. I. Company, this danger was, in some degree, guarded against, by the compulsory enactment for the constant keeping of a two years' supply of tea in the country. This does not now exist; and, partly in consequence of the effect which this very stock has been allowed to work on the speculations, under the new system — we wish we could, conscientiously, call it the free trade one — it is more than doubtful if, in future, a quantity of tea, much greater than required for the current year's consumption, will be henceforth kept in the country. The check to the consumption, caused by the grievous, impolitic, and enormous duties, originally established, and the no less admirable absurdity of an equalized rate of duty, on an article, varying in value from seven pence to seven shillings, will tend to this. It seems now

generally understood, that no profitable trade, to the importers of tea, can be hoped for, *till the country is under-supplied* with this, an article of general or nearly universal use; so that, through the wise arrangements of the English administrative, the interests of the merchant and consumer, which should run together, are now rendered antagonistic. The result of this will be felt, by the recoil of the evil, on the heads of its authors, in the shape of the immediate cutting off of this great source of revenue on the first quarrel or out-break of the traders with the local or general government of this province and empire. It will then be for the chancellor of the exchequer of the day to discover, if he can, some source whence so large an amount may, at once, be obtained,—a task, we suspect, in the present state of Great Britain, of no easy nature; and bitter then will be the regret that pusilanimity, ignorance, and procrastination, should have had so much the mastery as to prevent the possibility of such a catastrophe; or, at least, greatly to diminish the chances of it, by a well-defined and understood arrangement with the court of Peking.

It may be foolish to look at British relations with this country as connected with national honor, or, more properly speaking, national pride;—if glanced at, the retrospect would not be an agreeable one; but it may be as well, at once, to *envisager* this question, and to imagine the different attitude which England, would, in such a case as we have supposed, have to assume, with that which she might now fairly claim, notwithstanding the absurdities and degradation which have marked her diplomatic connection with China, up to the present hour. Ignorant, as we yet hold the rulers of the nation, on the points which should be known, we cannot imagine the recurrence of the follies displayed in Macartney's embassy; though, whether the unpalatable humiliations of the country, in the person of Lord Amherst, might not be repeated or surpassed, we should not choose to assert. The fine clothes and gewgaws of the first might be more easily dispensed with than the tacitly acknowledged tributary character of the other; and, cunning as the Chinese are, and well informed, as we believe them to be, of the direct importance of this trade to Great Britain, the position, in which an envoy, sent to China after the occurrence of a rupture between the countries, would be placed, must be as difficult as distressing. If instructed to support, in any way, the honor and dignity of his country, his mission would be futile. It is true, it is possible, that this might not be a *sine qua non* with his directors; and that trade, on any terms, so as to obtain the revenue, might be the object; in which case he probably might succeed, at the cost of national honor, in purchasing a temporary license for the trade; but this, though we fear by no means unlikely, is a contingency which we do not wish to imagine. We will, therefore, suppose an embassy, after the twelfth hour. Is it not manifest that the Chinese, feeling their advantage, would seize the opportunity to force terms, such as suited themselves, on "the haughty and fierce barbarians?" That supplication, on the one side, would lead to insolence on the other, and the return of the defeated envoy neces-

sarily force on war, or aggression on our part, the real cause for which, though gilded over with a fine show of dignity, &c., would be the cutting off of an important branch of the national trade—the very principle so much railed at by sir George Staunton, and other advocates for passive obedience and non-resistance to the caprices of his celestial majesty, and all his functionaries, high and low? In thus arguing, on the possibility of a rupture, we are not imagining difficulties and dangers that may not occur—so far from this being the case, we may appeal to all, acquainted with the subject, if it is not so much within the bounds of probability as to be often dwelt on by all interested in the trade. One flagrant breach of the laws or customs, as laid down by the local officers—a pretence of it—a single act of violence—a mere accident—a chance-scuffle or blow—any of these, or of many more possibilities obvious at the first reflection, would be enough to bring on the dilemma which we have contemplated. That such has not occurred, during three seasons of an extended trade, is, as Dr. Johnson might say, an unprecedented and extraordinary combination of fortunate coincidences, to be retrospectively regarded not more with satisfaction than surprise; but which all analogy and experience of human nature alike forbid the rational expectation of, for an equal duration of futurity—it is a chance which the sanguine may desiderate, but which the prudent will refuse to calculate on.

That our argument is, in reality, a selfish one we admit; and we have only followed out the above line to show that the British government cannot, as it would seem fondly to hope, leave its merchants without due protection, while securing so great a profit, from their labors; that here, as elsewhere, the real interests of governors and the governed are the same; and that wrong cannot be inflicted or permitted on the one, without bringing down at least equal suffering on the other. The prayer of the great bulk of British subjects in China, interested in the trade, sent home more than two years since, has been unheeded—the representations from some of the manufacturing and commercial cities of England, most deeply engaged in this trade, in furtherance of these views, have produced no effect; the defeat of the mission to this country since the expiring of the Company's charter, nerveless and inane as it was, has been allowed to pass by, in the hope that it might be forgotten, and the ignorance which engendered it overlooked; the memory of the unfortunate nobleman, who fell a victim to their folly, has been permitted by the ministry of England to remain under a cloud, lest the real causes of his failure, and the disgrace of the country in his person, should become apparent, and, as it ought, cry for vengeance: experience, argument, supplication, sense, prudence, and justice, have combined to persuade the English executive to shake off the dreamy indifference with which China and Chinese politics are regarded; and they have tried in vain. We know but of one more forcible argument that yet remains—it is hinted at above. We may be fortunate enough to escape the danger, for a time; but it is not in the nature of things that so anomalous a state can much longer subsist; it is barely pos-

sible that another season or two should pass over, without witnessing some such check as we have imagined, bringing with it, as it must, dishonor to the nation, embarassment to its finances, and ruin to many of its subjects, from the want of that protection which was their right, which they humbly appealed for, and which, with the wanton insolence of office, was, in contemptuous silence, refused them.

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Art. VII. *Remarks on the opium trade, being a reply to the papers of Choo Tsun, Heu Kew, Another Reader, and V. P. M., published in the Repository for January*, 1837. By "A Reader."

[It being the object of both A Reader and his oponents to ascertain the truth, respecting the subject under discussion, they are equally entitled to a patient hearing. We are pleased with the manner in which the case has been argued, and hope the question will not be dropped, till the truth, as to the *morality* or *immorality* of dealing in opium, becomes so clear and distinct that there can be no two opinions on the subject. In our number for February, it was stated, on the authority of Mr. Fleming and others, that the contents of a chest of Malwa opium weigh, on an average, 134 lbs.; and other kinds 116 lbs.; but varying, sometimes being 140 lbs. A friend has given us the following "average of Patna, 120 catties=160 lbs.; last year it was unusually heavy, averaging 125 catties, about 167 lbs.; Malwa is about 101 catties= 135 lbs.; from long usage, Turkey opium is always sold and delivered at 100 catties per chest." We will refer to this in our next number.]

Mr. Editor,—Since the appearance of a letter of 'A Reader' in the number of your Repository for December, on the subject of archdeacon Dealtry's hasty attack on a considerable body of merchants, it has become the opinion of some of the best informed foreign residents in China, that opium is about to be legalized by the emperor on a duty. The consequences of such a measure on the argument at issue, with the productions of Choo Tsun, Heu Kew, Another Reader, and V. P. M., all appearing in your number for January last, it is my intention to discuss in this article; and if the length of my argument is beyond usage, I intreat the public's indulgence, since it contains an answer to the ingenious reasoning and assumptions of two Chinese and two sincere, but I think, mistaken foreigners: I suppose it would hardly be fair also to call it an answer to the archdeacon, he, by your January number, appearing merely to have been the stalking-horse, behind which a Canton merchant fired off his treatise against the wicked dealers in opium. Let us first try to deal with our Chinese friends, Tsun and Kew, as good and loyal subjects. These statesmen must believe all their arguments, as to *expediency*, have been met, and controverted at the foot of the throne of the emperor, before he will act contrary to their advice, and opium is legalized; and we may safely argue from this fact, that his celestial majesty is of opinion that the risk and peril of opium to the existence of his army, is a mere dream, and all its evils very much exaggerated; or no arguments from censors or others would be tolerated on a subject of discussion

involving the very existence of an absolute government, viz., its soldiers.

One of the dangers described by Tsun, in the Repository for Jan., 1837, page 393, shows that he knows more of the growth of opium than some ignorant Chinese writers of recent date. Tsun says, truly, the poppy will only grow on the best soil, and not on poor or barren land. But if ever the home growth of the poppy interferes with the food of the people, the prevention of its cultivation is within the power of any government, as was shown in the case of the growth of the vine in Portugal, which, when necessary, was effectually restricted by one of the most intelligent ministers Portugal ever produced. On the other hand, the importation of the prepared extract of opium is beyond the power of the Chinese government to stop. Moreover, as a wise ruler, if the emperor finds the home growth of the poppy to interfere with rice or wheat, it is his policy to encourage its importation from foreign parts, as one vessel will hold, of prepared opium, a quantity greater than 1000 acres of fertile land will produce. We can only conjecture the emperor's real reasons from his deeds, and the chief one I give him credit for is, that he finds he has not honest servants enough to exclude this pervading luxury; as a matter of policy, therefore, he admits it, and thereby probably puts an end to smuggling, carried to an unprecedented extent, and the effect of which, on those of his subjects engaged in it, are quite as demoralizing as the use of the opium ever can be.

Now, for our foreign opponents: I desire to arrive at the truth by discussion: I am sincere in my disbelief of the immorality of dealing in opium. I give my opponents equal credit for their sincerity. I am open to hear all their facts and their arguments, and to give them due weight. But I will have no assumptions; I will not continue an argument with men who, like the archdeacon, first assume that opium merchants are disseminating poison, and on that assumption proceed to abuse and condemn them in this world and the next.

Prove that it is solely poison, and I tell you, when you do so, I will be as steadily your disciple and assistant, as I am now your opponent. I aver that opium taken in moderation, is a healthful and exhilarating luxury, given by a beneficent Deity for man's use and enjoyment, and that the majority so using it are in no way responsible for the miserable minority who destroy themselves by its abuse; far less are the industrious traders, in this production of the earth, answerable for the want of self-command in a small portion of their customers. This line of argument, in a former letter, I tried to support by showing that a large class of society think as I do; and I repeat here, all wine merchants and vine growers, all manufacturers of rum, all spirit dealers, all tobacco dealers or growers, all manufacturers of gun-powder, all instituters of races or breeders of race-horses, all billiard-table makers, all card and dice makers,—all these so employed are situated precisely as the opium traders are, that is, they are dealing in articles which are innocent, useful, and safe, when used as luxuries; but which, when *abused*, are the means of sin and guilt!

I say therefore, Mr. Editor, that having this numerous body of dealers in all countries of the world, in all ages and states, engaged in the very avocations we are engaged in, it is a fair argument to say, the force of their united authority as to the innocence of our dealings, is greater than all or any of the arguments brought by Another Reader, by V. P M., or by archdeacon Dealtry, and all his coterie. Further, in the state of local knowledge we possess, as to Chinese habits, it is extremely difficult to ascertain how the great mass of opium is consumed; but from the little I know, by ten years' personal experience, I believe a vast proportion of it is used as a harmless social family luxury; and I brought in aid of this view, in my last letter, a calculation as to the few, in comparative numbers, of incorrigible permanent smokers, who would be equal to the task of using every chest that is imported. When you look at this statement, and consider that if my opponents are right in their views, that *all people smoking opium are drunkards*, and that thus you have a mass of fifteen millions of dollars to collect annually from less than half a million of debased, useless, infatuated opium smokers, the averment is ridiculous! Is it probable, is it to a commercial man for a single minute to be listened to, that these degraded few could year after year furnish such a vast sum? I ask the question, "Whether this is most likely, or that the taste for this drug pervades the empire, and that it is occasionally used by a large portion of the whole inhabitants, and that the sum in question is raised by a payment falling lightly on a vast number out of a population of 300,000,000?"

I see no portion of the scale of figures, as to the consumption, given in my former letter, that is damaged by either Another Reader or by V. P M.; and I again respectfully submit it to the public, in support of my argument as a near approximation to the truth. It is usual for those opposed to each other in argument, to treat lightly the averments of their opponents; and V. P. M., goes fully the usual length when he says, in page 413, of me, "Now, is there another man in Canton who believes this!" In answer to this I have to observe, that a reward of £100 is not given to prove that two and two make four, but to prove some doubtful, unsettled, unadmitted, principle; therefore I must hold V. P. M. by his deeds to be convinced that many on this subject do think with 'A Reader,' or he would never pay "A Reader" the compliment of having a treatise drawn up at the expense of £100 for his sole conversion. I am not alone in my view of the innocent nature of the use of opium; see what the Rev. Dr. Walsh says in passing through the opium districts of Turkey,—the best part of his remarks will be found in a late number of the Canton Register. Ask any one who has come from Rájápútana, near the Malwa country, and you will find that some of the finest soldiers in India come from provinces where the use of opium is large and nearly universal. Its nourishing qualities have in India been applied, in times of famine, both to man and animals.

One view more. If a public act of legalization by the emperor should take place, it is likely to tend to the more rational *use* of

opium and to do away its *abuse*. To all respectable people acting against the law of the land, is a subject of regret. Now if the use of opium should come to be no longer a hidden, guilty, solitary indulgence, or subject to at least the fears of being betrayed by servants and guests, but a legal luxury, its use will be open to public observation, which is always a strong restraint on excess.

I remain Your's, "A READER."

25th March, 1837.

ART. VIII. *Journal of Occurrences. Premium for an essay on the opium trade; H. B. majesty's commission, by imperial pleasure, permitted to repair to Canton; foreign ships forbidden to enter Kumsing-Moon; the expulsion of foreigners from Canton; the imperial envoy returns to Peking; thunder-storms.*

APRIL 5th. Up to this date we have been unable to impannel a jury, or (in plain terms) to obtain arbiters, to award the premium for an essay, 'showing the effects of the trade in opium on the commercial, political, and moral interests of the nations and individuals connected therewith, and pointing out the course they ought to pursue in regard to it.' In courts of justice it is requisite that the jurors be impartial men,—or rather men, who have not prejudged the case. In the present instance, arbiters enough could be obtained, were it not that every person, or nearly every one, in China, 'has formed an opinion,' and might, therefore, be objected to, as not being an impartial judge. The same difficulty will be found, we fear, in referring to the Straits of Malacca or to India; and it will, probably, be deemed most satisfactory to commit the subject to the trustees or directors of some literary or scientific institution in England or America. The decision on this point will be given in our next number.

His Britannic majestiy's commission has obtained permission, from his celestial majesty, the emperor of China, to repair to the provincial city. The chief superintendent and his suit may be expected here in a few days. The following is the hoppo's "special edict" on the subject.

Wän, superintendent of maritime customs, &c., to the hong merchants, requiring their full acquaintance herewith. The following is a communication which I received on the 16th instant from his excellency governor Täng.

"In concluding a memorial (observes the governor) which I addressed to the throne, on the 20th of January, I represented to his majesty the fact, that the English foreigner, Elliot, had been appointed to take the control over the merchants and seamen of his country. I have now, on the 14th instant, received, by a courier from the Board of War, a dispatch from the Council addressed to myself, enclosing the subjoined imperial edict, dated the 22d of February.

"'Imperial edict: Täng has represented to us, that since the dissolution of the Company, no chief supercargo has come to Canton; that in December, last year, the said nation gave a special appointment to one of its officers, to proceed to Canton and take the general control of the merchants who come to trade, and also of the seamen, &c.; that since the ships of the said nation continually arrive, there ought to be some one to control them, with a view to preserve tranquility; and that the said foreigner having received a public official commission, for the control of the merchants and seamen, although his title be not the same as that of the chief supercargoes hitherto sent, yet in this duty of controlling he does not differ. It is, therefore, our imperial pleasure that he be permitted to repair to Canton, under the existing regulations applicable to chief supercargoes, and that on his arrival at the provincial capital, he be allowed to take the management of affairs. For this purpose, the superintendent of customs is hereby commanded

to grant him a passport. In future, he is to reside sometimes at Macao and sometimes at Canton, conforming herein to the old regulations; and he must not be permitted to exceed the proper time, and by loitering about gradually effect a continued residence. The said governor and his colleagues are hereby authorized to hold the said foreigner responsible for the careful control of affairs, that so all disturbances may be prevented. They should issue strict orders to all the officers, civil and military, and to the hong merchants, requiring them to inform themselves from time to time of the true state of things, and to keep a watch on the said foreigner. If he exceed his duty, and act improperly, or, combining with traitorous natives, seek to twist the laws to serve his private ends, he must immediately be driven back to his country, in order effectually to remove the source of evil. Let this edict be communicated to Tăng. Respect this.'

"I the governor have, on the receipt of this edict, given my attention to the subject, and find that I before sent to you a copy of my memorial; I will now direct the financial and judicial commissioners of this province to issue instructions requiring obedience to this edict. I will also give strict commands to the civil and military officers, and to the hong merchants, requiring them, from time to time, to inform themselves of the true state of things, and to keep a watch on the said foreigner; and, if he overstep his duty and act improperly, or, combining with traitorous natives, seek to twist the laws to seve his private ends, directing them immediately to report the facts, and to request that he he driven back to his own country; at the same time cautioning them not to connive at any thing, lest they draw investigation upon themselves. Besides taking these steps, it is incumbent on me to communicate to you the above edict, to the end, that you may act in obedience to it, and in the hope that, as soon as the said foreigner requests a passport, you will at once give it to him according to the legal forms, at the same time directing the hong merchants and linguists to enjoin upon him these commands,—that it is henceforth imperative on him, when he comes to Canton to manage affairs, to conform himself to the existing regulations applicable to chief supercargoes,—that he is to be held responsible for the careful control of affairs,—that he must not overstep his duty and act improperly,—and that, as regards his residence, sometimes at Macao and sometimes at Canton, he must in this also conform to the old regulations, nor can he be allowed to loiter beyond the proper period."

I the Hoppo, on the receipt of the above, forthwith issue this edict. When it reaches the said hong merchants, let them in obedience hereto, immediately enjoin upon the said foreigner these commands,—that it is henceforth imperative on him, when coming to Canton to manage affairs, to conform himself to the existing regulations applicable to chief supercargoes—that he is to be held responsible for the careful control of affairs,—that he must not overstep this duty and act improperly,—and that, as regards his residence, sometimes at Canton and sometimes at Macao, he must in this also conform himself to the old regulations, nor can he be allowed to loiter beyond the proper period. Oppose not. A special edict. Taoukwang, 17th year, 2d month, 12th day (18th March 1837).

The convenient and secure anchorage of Kunsing Moon, if the governor's orders are to be obeyed, is henceforth closed against all foreign ships. His excellency has issued three successive edicts. In his last, he says, his "words are ended."

The expulsion of certain foreigners from Canton, which was to have taken place yesterday (April 4th), has not been effected. What further measures are to be "proclaimed," remains to be seen.

The imperial envoy, Choo Szeyen, who arrived here in December, left Canton for Peking on the 14th of March; and, if current reports are to be believed, the affairs, which were to be investigated, are now wraped up in more obscurity than ever. For the present we can make no report on the case.

Heavy showers of rain, accompanied with wind, lightning, and thunder, sometimes quite terrific, have visited Canton and vicinity within a few days. The boat which was to have brought H. B. M's. commission to Canton was wrecked near Macao; and others, in other places; and among them, several native passage-boats near this city, with great loss of life. Some of the boats were upset almost instantly, and sunk with all their passengers. Two lives were lost also, and other damages sustained, by lightning.